Amendment Conference of the States Parties to the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water

PTBT/CONF/2
3 December 1990

ORIGINAL: ENGLISH

7-18 January 1991
New York

PROVISIONAL AGENDA OF THE AMENDMENT CONFERENCE OF THE STATES PARTIES TO THE TREATY BANNING NUCLEAR WEAPON TESTS IN THE ATMOSPHERE, IN OUTER SPACE AND UNDER WATER

1. Opening statement by the Secretary-General of the United Nations.
2. Election of the President.
3. Final report of the Meeting for the Organization of the Amendment Conference.
4. Confirmation of the nomination of the Secretary-General of the Conference.
5. Adoption of the agenda.
6. Adoption of the rules of procedure.
7. Credentials of representatives to the Conference:
   (a) Appointment of the Credentials Committee;
   (b) Report of the Credentials Committee.
8. Election of other officers.
9. Adoption of arrangements for meeting the costs of the Conference.
10. Programme of work.
11. General debate.
12. Consideration of the Proposed Amendment to the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water as provided for in its article II, including reports of the Committees.
13. Other matters.

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14. Adoption of final document/report of the Conference.

15. Closure of the Conference.

Amendment Conference of the States Parties to the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water

PTBT/CONF/3
3 December 1990

ORIGINAL: ENGLISH

7-18 January 1991
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DRAFT RULES OF PROCEDURE FOR THE AMENDMENT CONFERENCE OF THE STATES PARTIES TO THE TREATY BANNING NUCLEAR WEAPON TESTS IN THE ATMOSPHERE, IN OUTER SPACE AND UNDER WATER

I. REPRESENTATION AND CREDENTIALS

Delegations of parties to the Treaty

Rule 1

1. Each State Party to the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water (hereinafter referred to as "the Treaty") may be represented at the Conference by a head of delegation and such other representatives, alternate representatives and advisers as may be required.

2. The head of delegation may designate an alternate representative or an adviser to act as a representative.

Credentials

Rule 2

The credentials of representatives and the names of alternate representatives and advisers shall be submitted to the Secretary-General of the Conference, if possible not less than one week before the date fixed for the opening of the Conference. Credentials shall be issued either by the Head of the State or Government or by the Minister for Foreign Affairs.

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Credentials Committee

Rule 3

The Conference shall establish a Credentials Committee composed of the Chairman, one Vice-Chairman elected in accordance with rule 5, and five members appointed by the Conference on the proposal of the President. The Committee shall examine the credentials of representatives and report to the Conference without delay.

Provisional participation

Rule 4

Pending a decision of the Conference on their credentials, representatives shall be entitled to participate provisionally in the Conference.

II. OFFICERS

Election

Rule 5

The Conference shall elect the following officers: A President and 10 Vice-Presidents as well as a Chairman and Vice-Chairman of the Credentials Committee.

Acting President

Rule 6

1. If the President is absent from a meeting or any part thereof, he shall designate a Vice-President to take his place.

2. A Vice-President acting as President shall have the same powers and duties as the President.

Voting rights of the President

Rule 7

The President, or a Vice-President acting as President shall not vote, but shall appoint another member of his delegation to vote in his place.

III. GENERAL COMMITTEE

Composition

Rule 8

1. The General Committee shall be composed of the President of the Conference, who shall preside, 10 Vice-Presidents and the Chairman of the Credentials Committee. No two members of the General Committee shall be members of the same delegation and it shall be so constituted as to ensure its representative character.

2. If the President is unable to attend a meeting of the General Committee, he may designate a Vice-President to preside at such meeting and a member of his delegation to take his place. If a Vice-President is unable to attend, he may designate a member of his delegation to take his place. If the Chairman of the Credentials Committee is unable to attend, he may designate the Vice-Chairman to take his place, with the right to vote unless he is of the same delegation as another member of the General Committee.

Functions

Rule 9

The General Committee shall assist the President in the general conduct of the business of the Conference and, subject to the decisions of the Conference, shall ensure the co-ordination of its work.

IV. CONFERENCE SECRETARIAT

Duties of the Secretary-General of the Conference

Rule 10

1. There shall be a Secretary-General of the Conference. He shall act in that capacity in all meetings of the Conference, its committees and other appropriate bodies established under rule 35, and may designate a member of the secretariat to act in his place at these meetings.

2. The Secretary-General of the Conference shall direct the staff required by the Conference.

Duties of the secretariat

Rule 11

The secretariat of the Conference shall, in accordance with these rules:

(a) Interpret speeches made at meetings;

(b) Receive, translate and circulate the documents of the Conference;

(c) Publish and circulate any report of the Conference;

(d) Make and arrange for the keeping of sound recordings and summary records of meetings;

(e) Arrange for the custody of the documents of the Conference in the archives of the United Nations and provide authentic copies of these documents to each of the depositary Governments, and

(f) Generally perform all other work that the Conference may require.

Costs

Rule 12*

1. The costs of the Conference, including the Meeting for its organization, will be met by States parties to the Treaty who participate in the Meeting or the Conference and by States which have signed but not yet ratified the Treaty and which accept the invitation to participate in the Meeting or the Conference.

2. The costs will be shared in accordance with the United Nations scale of assessment, subject to the adjustments below:

(a) The three Original Parties specified in Article III (2) of the Treaty will pay, as offered by them, one third of the cost;

(b) No State party or signatory will be required to pay more than the largest contributor under the United Nations scale of assessment.

3. The outstanding costs arising from the above will be met by voluntary contributions.

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* It is understood that the financial arrangements for the Amendment Conference and the Meeting for its organization do not constitute a precedent.

V. CONDUCT OF BUSINESS

Quorum

Rule 13

A majority of the States parties to the Treaty participating in the Conference shall constitute a quorum.

General powers of the President

Rule 14

1. In addition to exercising the powers conferred upon him elsewhere by these rules, the President shall preside at the plenary meetings of the Conference; he shall declare the opening and closing of each meeting, direct the discussion, ensure observance of these rules, accord the right to speak, ascertain consensus, put questions to the vote and announce decisions. He shall rule on points of order. The President, subject to these rules, shall have complete control of the proceedings and over the maintenance of order thereat. The President may propose to the Conference the closure of the list of speakers, a limitation on the time to be allowed to speakers and on the number of times the representative of each State may speak on a question, the adjournment or the closure of the debate and the suspension or the adjournment of a meeting.

2. The President, in the exercise of his functions, remains under the authority of the Conference.

Points of order

Rule 15

A representative may at any time raise a point of order, which shall be immediately decided by the President in accordance with these rules. A representative may appeal against the ruling of the President. The appeal shall be immediately put to the vote, and the President's ruling shall stand unless overruled by a majority of the representatives present and voting. A representative may not, in raising a point of order, speak on the substance of the matter under discussion.

Speeches

Rule 16

1. No one may address the Conference without having previously obtained the permission of the President. Subject to rules 15, 17 and 19-22, the President shall call upon speakers in the order in which they signify their desire to speak.

2. Debate shall be confined to the subject under discussion and the President may call a speaker to order if his remarks are not relevant thereto.

3. The Conference may limit the time allowed to speakers and the number of times the representative of each State may speak on a question; permission to speak on a motion to set such limits shall be accorded only to two representatives in favour of and to two opposing such limits, after which the motion shall be immediately put to the vote. In any event, the President shall limit interventions on procedural questions to a maximum of five minutes. When the debate is limited and a speaker exceeds the allotted time, the President shall call him to order without delay.

Precedence

Rule 17

The Chairman of a committee may be accorded precedence for the purpose of explaining the conclusions arrived at by his committee.

Closing of list of speakers

Rule 18

During the course of a debate, the President may announce the list of speakers and, with the consent of the Conference, declare the list closed. When the debate on an item is concluded because there are no more speakers, the President shall declare the debate closed. Such closure shall have the same effect as closure pursuant to rule 22.

Right of reply

Rule 19

Notwithstanding rule 18, the President may accord the right of reply to a representative of any State participating in the Conference. Such statements shall be as brief as possible and shall, as a general rule, be delivered at the end of the last meeting of the day.

Suspension or adjournment of the meeting

Rule 20

A representative may at any time move the suspension or the adjournment of the meeting. No discussion on such motions shall be permitted and they shall, subject to rule 23, be immediately put to the vote.

Adjournment of debate

Rule 21

A representative may at any time move the adjournment of the debate on the question under discussion. Permission to speak on the motion shall be accorded only to two representatives in favour of and to two opposing the adjournment after which the motion shall, subject to rule 23, be immediately put to the vote.

Closure of debate

Rule 22

A representative may at any time move the closure of the debate on the question under discussion, whether or not any other representative has signified his wish to speak. Permission to speak on the motion shall be accorded only to two representatives opposing the closure, after which the motion shall, subject to rule 23, be immediately put to the vote.

Order of motions

Rule 23

The motions indicated below shall have precedence in the following order over all proposals or other motions before the meeting:

(a) To suspend the meeting;

(b) To adjourn the meeting;

(c) To adjourn the debate on the question under discussion;

(d) To close the debate on the question under discussion.

The Amendment to the Treaty and submission of other proposals and substantive amendments

Rule 24

1. The Amendment to the Treaty to be considered by the Conference is the amendment proposal submitted in accordance with Article II of the Treaty by Indonesia, Mexico, Peru, Sri Lanka, Venezuela and Yugoslavia (PTBT/CONF/M/3).

2. Other proposals and substantive amendments thereto shall normally be submitted in writing to the Secretary-General of the Conference, who shall circulate copies to all delegations. Unless the Conference decides otherwise, such proposals and substantive amendments shall be discussed or decided on no earlier

than 24 hours after copies have been circulated in all languages of the Conference to all delegations.

Withdrawal of proposals and motions

Rule 25

A proposal or a motion may be withdrawn by its sponsor at any time before a decision on it has been taken, provided that it has not been amended. A proposal or a motion thus withdrawn may be reintroduced by any representative.

Decision on competence

Rule 26

Any motion calling for a decision on the competence of the Conference to adopt a proposal submitted to it, shall be decided upon before a decision is taken on the proposal in question.

Reconsideration of proposals

Rule 27

Proposals under rule 24, paragraph 2 adopted by consensus may not be reconsidered unless the Conference reaches a consensus on such reconsideration. When such a proposal has been adopted or rejected by a majority or two-thirds vote, it may not be reconsidered unless the Conference, by a two-thirds majority of the members present and voting, so decides. Permission to speak on a motion to reconsider shall be accorded only to two speakers opposing the motion, after which it shall be immediately put to the vote.

VI. VOTING AND ELECTIONS

Adoption of decisions

Rule 28

1. Approval of the Amendment Proposal referred to in rule 24 (1) shall be in accordance with the relevant provisions of Article II (2) of the Treaty which reads:

> "Any amendment to this Treaty must be approved by a majority of the votes of all the Parties to the Treaty, including the votes of all the Original Parties".

2. Every effort should be made to adopt decisions by consensus. If this is not possible, then decisions on matters of procedure shall be taken by a simple majority of the representatives present and voting. Decisions on other matters shall be taken by a two-thirds majority of the representatives present and voting, without prejudice to paragraph 1.

3. If the question arises whether the matter is or is not one of procedure, the President of the Conference shall rule on the question. A representative may appeal against the ruling of the President. The appeal shall be immediately put to the vote and the President's ruling shall stand unless overruled by a simple majority of the representatives present and voting.

4. In cases where a vote is taken in accordance with paragraphs 1, 2 and 3 above, the relevant rules of procedure relating to voting of the General Assembly of the United Nations shall apply, except as otherwise specifically provided herein.

Reconsideration of decisions

Rule 29

Decisions adopted by consensus may not be reconsidered unless the Conference reaches a consensus on such reconsideration. When a decision has been adopted or rejected by a majority or two-thirds vote, it may not be reconsidered unless the Conference, by a two-thirds majority of the members present and voting, so decides.

Voting rights

Rule 30

Every State party to the Treaty shall have one vote.

Meaning of the phrase "representatives present and voting"

Rule 31

For the purposes of these rules, the phrase "representatives present and voting" means representatives casting an affirmative or negative vote. Representatives who abstain from voting are considered as not voting.

Elections

Rule 32

All elections shall be held by secret ballot, unless the Conference decides otherwise in an election where the number of candidates does not exceed the number of elective places to be filled.

Rule 33

1. If, when only one elective place is to be filled, no candidate obtains in the first ballot the majority required, a second ballot shall be taken, confined to the two candidates having obtained the largest number of votes. If in the second ballot the votes are equally divided, the President shall decide between the candidates by drawing lots.

2. In the case of a tie in the first ballot among the candidates obtaining the second largest number of votes, a special ballot shall be held among such candidates for the purpose of reducing their number to two; similarly, in the case of a tie among three or more candidates obtaining the largest number of votes, a special ballot shall be held; if a tie again results in the special ballot, the President shall eliminate one candidate by drawing lots and thereafter another ballot shall be held in accordance with paragraph 1.

Rule 34

1. When two or more elective places are to be filled at one time under the same conditions, those candidates, in a number not exceeding the number of such places, obtaining in the first ballot the majority required and the largest number of votes, shall be elected.

2. If the number of candidates obtaining such majority is less than the number of places to be filled, additional ballots shall be held to fill the remaining places, provided that if only one place remains to be filled the procedures in rule 32 shall be applied. The ballot shall be restricted to the unsuccessful candidates having obtained the largest number of votes in the previous ballot, but not exceeding twice the number of places remaining to be filled. However, in the case of a tie between a greater number of unsuccessful candidates a special ballot shall be held for the purpose of reducing the number of candidates to the required number; if a tie again results among more than the required number of candidates, the President shall reduce their number to that required by drawing lots.

3. If such a restricted ballot (not counting a special ballot held under the conditions specified in the last sentence of paragraph 2) is inconclusive, the President shall decide among the candidates by drawing lots.

VII. OTHER APPROPRIATE BODIES OF THE CONFERENCE

Rule 35

The Conference may establish appropriate bodies. As a general rule each State party to the Treaty participating in the Conference may be represented in those bodies unless otherwise decided.

VIII. COMMITTEE OF THE WHOLE

Rule 36

The Conference shall meet as a Committee of the Whole under the chairmanship of the President of the Conference for such purposes as the Conference may determine.

IX. OFFICERS AND PROCEDURES

Rule 37

The rules relating to officers, the Conference secretariat, conduct of business and voting of the Conference (contained in chapters II (rules 5-7), IV (rules 10-11), V (rules 13-27) and VI (rules 28-34) above) shall be applicable mutatis mutandis, to the proceedings of committees and other appropriate bodies, except that:

(a) Unless otherwise decided, any body established under rule 35 shall elect a chairman and such other officers as it may require;

(b) The Chairmen of the General Committee and the Credentials Committee and the chairmen of bodies established under rule 35 may vote in their capacity as representatives of their States;

(c) A majority of the representatives on the General Committee or the Credentials Committee shall constitute a quorum; the same may apply to any body established under rule 35 if the Conference so desires.

X. LANGUAGES AND RECORDS

Languages of the Conference

Rule 38

Arabic, English, French, Russian and Spanish shall be the official languages of the Conference.

Interpretation

Rule 39

1. Speeches made in a language of the Conference shall be interpreted into the other languages.

2. A representative may make a speech in a language other than a language of the Conference if he provides for interpretation into one such language.

Interpretations into the other languages of the Conference by interpreters of the secretariat may be based on the interpretation given in the first such language.

Language of official documents

Rule 40

Official documents shall be made available in the languages of the Conference.

Sound recordings of meetings

Rule 41

Sound recordings of meetings of the Conference and of all committees shall be made and kept in accordance with the practice of the United Nations. Unless otherwise decided, no such recordings shall be made of the meetings of any other appropriate body established under rule 35.

Summary records

Rule 42

1. Summary records of the plenary meetings of the Conference shall be prepared by the secretariat in the languages of the Conference. They shall be distributed in provisional form as soon as possible to all participants in the Conference. Participants in the debate may, within three working days of receipt of provisional summary records, submit corrections to summaries of their own interventions to the secretariat; in special circumstances, the presiding officer may, in consultation with the Secretary-General of the Conference, extend the time for submitting corrections. Any disagreement concerning such corrections shall be decided by the presiding officer of the body to which the record relates, after consulting, where necessary, the sound recordings of the proceedings. Separate corrigenda to provisional records shall not normally be issued.

2. The summary records, with any corrections incorporated, shall be distributed promptly to participants in the Conference.

XI. PUBLIC AND PRIVATE MEETINGS

Rule 43

1. The plenary meetings of the Conference and the meetings of the Committee of the Whole shall be held in public unless the body concerned decides otherwise.

2. Meetings of other organs of the Conference shall be held in private.

XII. PARTICIPATION AND ATTENDANCE

Rule 44

1. Signatories

Any State signatory to the Treaty which has not yet ratified it shall be entitled to participate, without taking part in the adoption of decisions, whether by consensus or by vote, in the deliberations of the Conference, subject to prior written notification to the Secretarty-General of the Conference. This means that any of those signatory States shall be entitled to appoint officials to attend plenary meetings and those of the Committee of the Whole; to address such meetings; to receive the documents of the Conference and to submit its views in writing to the Conference, which shall be considered as Conference documents.

2. Observers

(a) Any other State which, in accordance with Article III of the Treaty, has the right to become a Party thereto but which has neither signed nor ratified it may apply to the Secretary-General of the Conference for Observer status, which will be accorded on the decision of the Conference.* Such a State shall be entitled to appoint officials to attend meetings of the Plenary and of the Committee of the Whole other than those designated closed meetings, and to receive documents of the Conference. An Observer State shall also be entitled to submit documents to the participants in the Conference.

(b) Any national liberation organization entitled by the General Assembly of the United Nations** to participate as an Observer in the sessions and the work of the General Assembly, all international Conferences convened under the auspices of the General Assembly, and all international Conferences convened under the auspices of other organs of the United Nations, may apply to the Secretary-General of the Conference for Observer status, which will be accorded on the decision of the Conference. Such a liberation organization shall be entitled to appoint officials to attend meetings of the Plenary and of the Committee of the Whole other than those designated closed meetings, and to receive documents of the Conference. An Observer organization shall also be entitled to submit documents to the participants in the Conference.

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* It is understood that any such decision will be in accordance with the practice of the United Nations General Assembly.

** Pursuant to General Assembly resolution 3237 (XXIX) of 22 November 1974 and 3280 (XXIX) of 10 December 1974.

3. The Secretary-General of the United Nations, the Secretary-General of the Conference on Disarmament and the Director-General of the International Atomic Energy Agency

The Secretary-General of the United Nations, the Secretary-General of the Conference on Disarmament and the Director-General of the International Atomic Energy Agency or their respective representative or representatives shall be entitled to attend plenary meetings, meetings of the Committee of the Whole and those of any other appropriate body established under rule 35 and to receive the Conference documents. They shall also be entitled to submit material, both orally and in writing.

4. Specialized agencies and intergovernmental organizations

The Agency for the Prohibition of Nuclear Weapons in Latin America, other relevant intergovernmental organizations and any specialized agency of the United Nations may apply to the Secretary-General of the Conference for Observer Agency status, which will be accorded on the decision of the Conference. An Observer Agency shall be entitled to appoint officials to attend plenary meetings, meetings of the Committee of the Whole and those of any other appropriate body established under rule 35 other than those designated as closed meetings and to receive the documents of the Conference. At their request, the Conference may authorize the Observer Agencies to present, orally or in writing, their views and comments on aspects falling within their competence. Those which are submitted in writing will be circulated as documents of the Conference.

5. Non-governmental organizations

Representatives of non-governmental organizations who attend plenary meetings and meetings of the Committee of the Whole will be entitled upon request to receive the documents of the Conference.

Amendment Conference of the States Parties to the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water

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VIEWS REGARDING THE VERIFICATION OF A COMPREHENSIVE NUCLEAR-TEST BAN

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INTRODUCTION

1. On 8 June 1990, the Meeting of the States Parties to the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water for the Organization of the Amendment Conference decided to invite the parties to the Treaty, in particular the nuclear-weapon States parties to the Treaty, to submit to the Provisional Secretary-General of the Amendment Conference, for distribution before the Conference, their views regarding the verification of a comprehensive nuclear-test ban (PTBT/CONF/M/DEC.6).

2. Pursuant to that decision, the Provisional Secretary-General of the Amendment Conference, in a communication dated 26 July 1990, invited all States parties to the Treaty to submit their views, by 15 October 1990, regarding the verification of a comprehensive nuclear-test ban. To date, replies have been received from the following States parties: Byelorussian Soviet Socialist Republic, Chile, Czech and Slovak Federal Republic, Sweden, Ukrainian Soviet Socialist Republic and Union of Soviet Socialist Republics. These views are reproduced below. Further views will be issued as addenda to the present document.

INFORMATION RECEIVED FROM STATES PARTIES

BYELORUSSIAN SOVIET SOCIALIST REPUBLIC

[Original: Russian]

[31 October 1990]

The Byelorussian SSR reaffirms once again its profound interest in the speedy, complete and general prohibition of nuclear-weapon tests. All possible ways and means must be used to achieve this goal, whose significance is crucial to the cause of nuclear disarmament.

One such way, in the opinion of the Byelorussian SSR, is the possible extension of the scope of the 1963 Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water, the subject of the forthcoming Amendment Conference of the States Parties to the Treaty.

A complete and general prohibition of nuclear tests, by whatever specific means it is implemented, must indisputably be accompanied by the elaboration and adoption of adequate verification procedures.

The problem of verification of a full comprehensive ban on nuclear tests is not a simple one, but the Byelorussian SSR is convinced that a solution can be found on the basis of sincere combined efforts by interested States. This is attested both by the joint Soviet-American experiments in this field and by the recently signed verification protocols to the 1974 Treaty between the United States and the USSR on the Limitation of Underground Nuclear Weapon Tests and the 1976 Treaty between the United States and the USSR on Underground Nuclear Explosions for Peaceful Purposes. A great deal of work on verification of a nuclear-test ban has

also been done within the Ad Hoc Group of Scientific Experts in the Conference on Disarmament in Geneva. All this allows us to conclude that up-to-date scientific and technical capabilities make it possible to verify adequately a full and comprehensive nuclear-test ban.

As to developing verification procedures for a comprehensive nuclear-test ban in connection with the extension of the scope of the 1963 Treaty, the Byelorussian SSR takes the view that the forthcoming Amendment Conference of States Parties to the Treaty should address a request to the Conference on Disarmament to include that issue in its programme of work under the agenda item dealing with the nuclear-weapon-test ban.

Such a solution would make it possible to utilize the potential which the Conference on Disarmament has already accumulated in the field of nuclear-test-ban verification and to funnel the international community's efforts in this field into a single channel, avoiding their dispersion.

CHILE

[Original: Spanish]

[26 October 1990]

The Government of Chile notes that discussions have been continuing for a long time now on the need to amend the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water to include underground tests, thereby extending it to encompass all areas capable of being used for nuclear tests.

The basic obstacle preventing this from being achieved has been the problem of how to verify such an agreement. For a long time there has been discussion of different mechanisms and procedures for ensuring that all the States involved in a comprehensive nuclear-test-ban agreement only comply with its provisions.

Chile, as an acknowledged non-nuclear-weapon State with no intention of possessing nuclear weapons, wishes to contribute through its opinions and proposals to achieving, as soon as is realistically possible, a complete cessation of all types of nuclear tests, whether belligerent or peaceful in intent, while at the same time satisfying the political and security requirements of the States concerned.

In the opinion of the Government of Chile, in order to establish a mechanism for the verification of all types of nuclear tests, it is essential that sufficient political will should exist for the mechanism to be realistic and applicable to the object to be monitored.

From a strictly technical point of view, the best available technology should be used so as to, on the one hand, obtain the best possible information with regard to a particular fact and, on the other, avoid hindering the normal development of the scientific or any other work of the States.

In this regard, the delicate balance desired would appear to lie in a combination of the following elements:

(a) Seismic monitoring;

(b) Measurement of atmospheric radioactivity;

(c) On-site inspections.

With regard to seismic monitoring, the Government of Chile has given its consent for the Ad Hoc Group of Scientific Experts to Consider International Co-operative Measures to Detect and Identify Seismic Events to make use of the information concerning the seismic activity which affects Chile. In this respect, it may be noted that the said information is being accumulated at the National Earthquake Information Centre (NEIC), located in Colorado, United States of America, and that it will be in the second phase of the Group of Scientific Experts' Technical Test (GSETT-2), concerning the exchange and processing of digital seismic data.

It is also worth drawing attention to the contribution which is being made by the United Nations through this Group of Experts, which forms part of the Geneva Conference on Disarmament and whose objective, that of determining the minimum technical requirements for the development of a system of seismic monitoring, will constitute the first element of a verification system for a comprehensive nuclear-test-ban treaty. Chile is a member of this Group of Experts and is prepared to contribute its extensive experience in the fields of seismic detection and investigation and the creation of sources of seismic data.

With regard to the measurement of atmospheric radioactivity, Chile considers that this is justified for the measurement of possible test explosions of less than one kiloton yield, the level currently recognized as the lower limit of sensitivity as far as existing methods of seismological measurement are concerned. For such a system to be effective, it should include on-site and remote equipment, the latter meaning equipment located outside the territory of the State in question. Mention should be made in this regard of satellite technology as a first approach to solving the problem.

With regard to on-site or invasive methods of inspection, only those capable of being used both to provide first-hand information and also to calibrate the measuring equipment to be used once a verification system is operational need be considered.

In the development of these mechanisms, it is essential that all States, without exception, should contribute with their capabilities and resources to determining the optimum performance of which these mechanisms and any other proposed systems must be capable, with a view to securing the best possible verification system.

The most sensitive matter to be decided is by whom, how and under what mandate the verification system will be administered. The mechanism decided upon in this

regard must be simple, effective, equitable and non-discriminatory as regards the rights and the duties of the different States parties to a comprehensive nuclear-test-ban treaty.

This aspect of the matter needs to be considered and discussed in relation to the various possible verification mechanisms proposed. It should be emphasized that, in view of the hoped-for universal accession of States to a comprehensive nuclear-test-ban agreement, the mechanism for monitoring compliance with the agreement must provide also for the participation of all States in the process of gathering information. Such participation will, furthermore, ensure a greater commitment to maintaining the agreement in force indefinitely.

The Government of Chile is of the opinion that in the time remaining before the Amendment Conference is held in January 1991 the bodies and/or working groups of experts concerned with disarmament matters in the United Nations system should be asked to submit, as soon as possible, any comments of a technical nature which would contribute to the formulation of a phased programme designed to expedite the process of obtaining the information needed in order to determine the minimum requirements for a technically reliable verification system. This initial step will enable the Amendment Conference to plan a strategy of future work with a view to convening a second meeting, which would be able to determine the eventual verification system to be adopted for enforcing a comprehensive nuclear-test-ban treaty.

CZECH AND SLOVAK FEDERAL REPUBLIC

[Original: English]

[7 November 1990]

The Czech and Slovak Federal Republic considers a comprehensive nuclear-test ban a significant part of the universal process of arms limitation and disarmament. It is convinced that a solution of this question constitutes the most effective way to prevent development of new types of nuclear weapons and improvement of the existing ones. At the same time, other countries will be prevented from developing and producing their own nuclear weapons. In view of this, a ban on all nuclear tests will to a great extent contribute to the strengthening of the régime of non-proliferation of nuclear weapons.

Recently, we have been witnessing certain progress that has been achieved in this field. At the bilateral level, after the questions of verification were solved, the Soviet-American treaties of 1974 and 1976 on the limitation of underground nuclear tests and underground nuclear explosions for peaceful purposes were ratified. In the framework of the Conference on Disarmament in Geneva, the work of the Ad Hoc Committee on a Nuclear Test Ban was resumed in 1990 after a seven-year interruption. These problems were given more attention also at the Fourth Review Conference of the Treaty on the Non-Proliferation of Nuclear Weapons.

A further possibility of assisting in the solution to this matter and turning the attention of the world public to it is also afforded by the Amendment Conference to the Moscow Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water of 1963, which will be held in New York in January 1991.

The Czech and Slovak Federal Republic, as an initial participant in the Moscow Treaty, considers it - similar to the Treaty on the Non-Proliferation of Nuclear Weapons - one of the most important documents of the contemporary international juridical régime of arms limitation and disarmament.

We can state to our satisfaction that, during the 25 years since the Moscow Treaty entered into force, not a single case of its violation could be noted. On the other hand, however, the Moscow Treaty is not yet universal - as regards both its membership and the scope of its activity. To rectify this state of affairs is essentially a political matter reflecting the will of the individual countries aimed at fostering international security, and at arms limitation and disarmament.

In the context of efforts to reach a comprehensive ban on nuclear tests, it will also be necessary in future adequately to solve the question of nuclear explosions for peaceful purposes.

A universal problem which must be taken into account in discussion at any disarmament forum is posed by the question of verification. The Czech and Slovak Federal Republic assumes that a future modification of the nuclear-test ban will probably require its new estimation. It considers the summing up of all previous experience from bilateral and multilateral discussions and its further elaboration to be rational.

In the broad system of verification of the future treaty on a comprehensive ban on nuclear tests, the following methods could be used in the view of the Czech and Slovak Federal Republic: seismic control, registration of pressure changes in the air and water, measurement of atmospheric radiation, satellite measurement, and on-site inspection. The question of data transmission and evaluation of the data will be of fundamental importance. For these purposes, the past experience of the International Atomic Energy Agency could be used to a certain extent, first of all in regard to the application of its safeguard system.

In this spirit the Czech and Slovak Federal Republic is ready to further actively participate in relevant international negotiations aiming at the final goal: a comprehensive ban on all nuclear weapons.

SWEDEN

[Original: English]

[25 October 1990]

Sweden considers that there are no insurmountable technical obstacles to concluding a treaty banning all nuclear tests in all environments for all time. Existing scientific and technical capabilities should make it possible to verify adequately a comprehensive test ban.

In 1983 Sweden presented in the Conference on Disarmament a draft treaty, including verification, banning any nuclear-weapon-test explosion in any environment (CD/381 of 14 June 1983) and three years later, in the same forum, a working paper on nuclear-test-ban verification (CD/712 of 14 July 1986).

Considerable progress has been achieved on the important issue of verifying a comprehensive test ban by the Ad Hoc Group of Scientific Experts (GSE) in the Conference on Disarmament, which, in close international co-operation, has developed a concept for a global seismic verification system.

The concept, which is based on the extensive exchange of seismic waveform data, will be evaluated in the second technical test conducted within the Conference on Disarmament by the GSE. The widest possible participation in the final experimental phase will be of crucial value. The second technical test will be concluded in the spring of 1991 with eight weeks of continuous operation of the entire experimental network.

A successful completion of this test will ease the way towards the implementation and operation of a global seismic system for the effective monitoring and verification of compliance with a comprehensive nuclear-test-ban treaty. Important complementary measures to be considered in relation to the monitoring and verification of compliance with such a treaty include on-site inspections and an international network to monitor atmospheric radioactivity.

UKRAINIAN SOVIET SOCIALIST REPUBLIC

[Original: Russian]

[7 November 1990]

The Ukrainian SSR consistently advocates the comprehensive banning of nuclear tests. The complete cessation of such tests is one of the most urgent tasks of our time. It would place a reliable barrier in the path of the further refinement of nuclear weapons and the development of new types of such weapons, assist the strengthening of the international régime of non-proliferation of nuclear weapons, improve the ecological state of our planet and do much to strengthen confidence among States. The Ukraine takes the view that the United Nations and other relevant multilateral bodies must concentrate their efforts on this problem in order to arrive at a definitive solution.

The Ukrainian SSR considers that a comprehensive nuclear-test-ban agreement must also incorporate reliable monitoring measures. We are convinced that the level of development reached in science and technology makes it entirely feasible to find an effective solution to this problem and to ensure appropriate verification of compliance with the agreement and confidence in its observance. The achievements of modern science and technology and the experience gained make it possible to monitor reliably the most drastic limitations imposed on nuclear explosions, up to and including their complete cessation.

This is convincingly attested by the successful creation on a bilateral basis of sufficiently strict and reliable machinery for monitoring compliance with the Soviet-American Treaties on the Limitation of Underground Nuclear Weapon Tests of 1974 and on Underground Nuclear Explosions for Peaceful Purposes of 1976. The Ukrainian SSR considers that the verification measures agreed on between the USSR and the United States, particularly seismic monitoring methods and on-site inspections, can be used effectively in future machinery for monitoring compliance with a comprehensive nuclear-test ban and can become integral parts of machinery for monitoring compliance with the appropriate multilateral treaty.

UNION OF SOVIET SOCIALIST REPUBLICS

[Original: Russian]

[17 October 1990]

The Soviet Union considers the task of fully and completely banning nuclear tests one of the priority goals of its foreign policy, as was again emphasized in the appeal by the Supreme Soviet of the USSR to the parliaments and people of the world adopted on 9 October 1990 following the ratification of the Soviet-American Treaties on the Limitation of Underground Nuclear Weapon Tests of 1974 and on Underground Nuclear Explosions for Peaceful Purposes of 1976.

The Soviet Union reaffirms its dedication to the speedy resolution of the urgent problem of banning nuclear tests and is prepared to use all possible means to achieve that goal, including the extension of the scope of the 1963 Treaty banning nuclear-weapon tests in three environments to cover underground nuclear tests, too.

It goes without saying that the question of working out effective verification machinery for a full and comprehensive ban on nuclear tests is of very great importance for the preparation of the corresponding international agreements. However, as the experience gained shows, verification has ceased to be an obstacle to the solution of this problem and the movement towards the complete banning of nuclear tests is based on the solid scientific and technical capabilities available to the countries of the world.

The Soviet Union's basic approach to the problem of verification of a nuclear-test ban was reflected in the document it submitted to the Conference on Disarmament in June 1987 on "Basic Provisions of a Treaty on the Complete and

General Prohibition of Nuclear Weapon Tests", which not only brought together the positive results of the many years of work on the preparation of a verification régime but also proposed extensive monitoring measures. Together with the use of national technical means of verification, it envisaged the creation of an international system of seismic verification, the exchange of data on atmospheric radioactivity, systematic verification with the help of international inspectors and the possibility of conducting mandatory on-site challenge inspections without the right of refusal.

Significant experience in the development of verification machinery was also gained in the course of working out the verification protocols to the two above-mentioned Soviet-American treaties of 1974 and 1976, the basic elements of which, seismic and on-site inspection, could also be utilized in the verification machinery for a complete nuclear-test ban. The Soviet Union is prepared to share the experience it has gained in this field.

The Soviet Union believes that the establishment within the Conference on Disarmament of an ad hoc committee on the banning of nuclear tests would make it possible to initiate a real negotiating process to work out a treaty on the complete and comprehensive banning of nuclear tests. In its opinion, full use should be made of the potential of that body for working out verification measures for a nuclear-test ban in the interests, inter alia, of resolving the problems facing the forthcoming Amendment Conference of the States Parties to the 1963 Treaty.

Amendment Conference of the States Parties to the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water

PTBT/CONF/5
20 December 1990

ORIGINAL: ENGLISH

7-18 January 1991
New York

Background paper by the Secretariat

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INTRODUCTION

1. The States parties to the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water participating in their Meeting for the Organization of the Amendment Conference to the Treaty, held in New York from 29 May to 8 June 1990, 1/ invited the Secretariat to prepare for the Amendment Conference a brief background document covering the following points and drawing, as far as possible, on relevant existing documentation:

I. An account of the convening of the Amendment Conference

II. Compilation of material on:

A. A historical review of the role ascribed to a comprehensive test ban in contributing to the cessation of the nuclear-arms race

B. Nuclear-weapon-test explosions and any other nuclear explosions conducted since 5 August 1963

C. United Nations General Assembly resolutions relevant to the question of a comprehensive nuclear-test ban and a moratorium on nuclear-weapon testing

D. Multilateral, regional and bilateral agreements, and other initiatives related to a comprehensive nuclear-test ban

E. 1980 report of the Secretary-General on a comprehensive test ban

III. The implications of a comprehensive test ban for:

A. The nuclear-arms race and the development of new weapon systems that involve nuclear testing, including those for outer space

B. The environment, including social and economic aspects

C. All aspects of the proliferation of nuclear weapons

D. Peaceful uses of nuclear energy

IV. Verification of a comprehensive test ban

V. Any other relevant documents

The present paper is submitted in response to that request.

2. On the question of a comprehensive nuclear-test ban, and especially on the question of amending the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water (generally known as the partial test-ban Treaty, or PTBT) into a comprehensive test-ban treaty (CTBT), there are divergent views between the various States and groups of States. As a result, the present paper

deals not only with issues of great complexity and sensitivity, but also with issues that are controversial in many respects. Under these circumstances, every effort has been made to draft the paper in a balanced and factual manner, and to give it a purely descriptive character. Efforts have also been made to base the paper, as far as possible, solely on documents of the United Nations, the Conference on Disarmament and other sources within the United Nations framework.

I. AN ACCOUNT OF THE CONVENING OF THE AMENDMENT CONFERENCE

3. The question of an amendment to the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water that would convert it into a comprehensive nuclear-test-ban treaty was first discussed in conjunction with the question of the cessation of all nuclear-test explosions at the fortieth session of the General Assembly in 1985. At that session, a proposal to that effect was made by Mexico. According to that initiative, the States parties to the partial test-ban Treaty would avail themselves of the provisions of its article II for amending the Treaty. At the same session, the General Assembly adopted resolution 40/80 B by a majority. It reads as follows:

> The General Assembly,
>
> Bearing in mind the determination, proclaimed since 1963 in the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water, to seek to achieve the discontinuance of all test explosions of nuclear weapons for all time and to continue negotiations to this end,
>
> Bearing also in mind that in 1968 the Treaty on the Non-Proliferation of Nuclear Weapons recalled such determination and included in its article VI an undertaking by each of its parties to pursue negotiations in good faith on effective measures relating to cessation of the nuclear-arms race at an early date,
>
> Recalling that in its resolution 2028 (XX) of 19 November 1965, adopted unanimously, it had stressed that one of the basic principles on which the treaty to prevent the proliferation of nuclear-weapons should be based was that such treaty, which was then to be negotiated, should embody an acceptable balance of mutual responsibilities and obligations of the nuclear and non-nuclear Powers,
>
> Recalling also that the Third Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, in its Final Declaration adopted by consensus on 21 September 1985, expressed its deep regret that a comprehensive multilateral nuclear-test-ban treaty had not been concluded so far and called for the urgent negotiation and conclusion of such a treaty as a matter of the highest priority,
>
> Noting that article II of the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water provides a procedure for the consideration and eventual adoption of amendments to the Treaty by a conference of its parties,

Recommends that States parties to the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water carry out urgent consultations among themselves as to the advisability and most appropriate method of taking advantage of the provisions of its article II for the conversion of the partial nuclear-test-ban treaty into a comprehensive nuclear-test-ban treaty.

4. At its forty-first session, in 1986, the General Assembly adopted by a majority resolution 41/46 B, recommending that the States parties to the partial test-ban Treaty undertake practical steps leading to the convening of a conference to consider amendments to the Treaty to convert it to a comprehensive nuclear-test-ban treaty, and requested the States parties to the Treaty to report on the progress of its efforts to the Assembly at its forty-second session.

5. In 1987, the General Assembly by a majority adopted resolution 42/26 B, recommending that the non-nuclear-weapon States parties to the Treaty submit an amendment proposal to the Depositary Governments with a view to convening a conference at the earliest possible date to consider amendments to the Treaty that would convert it into a comprehensive test-ban treaty.

6. In 1988, identical letters signed by the representatives of Indonesia, Mexico, Peru, Sri Lanka, Venezuela and Yugoslavia were submitted to the three Depositary Governments, 2/ requesting them to circulate the proposal to all the parties to the Treaty, so that such a conference might be convened following the request of one third of the parties, in accordance with article II of the Treaty, and the Depositary Governments (United Kingdom, United States and USSR) circulated the proposal to all the parties. The General Assembly, by a majority, welcomed in resolution 43/63 B the submission of an amendment proposal to the three Depositary Governments for consideration at a conference of the parties to the Treaty to be convened for that purpose in accordance with article II of the Treaty.

7. At the request of more than one third of the parties to the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water (Bahamas, Bangladesh, Bolivia, Bulgaria, Costa Rica, Cyprus, Democratic Yemen, Dominican Republic, Ecuador, Egypt, German Democratic Republic, Ghana, Guatemala, Honduras, India, Indonesia, Iran (Islamic Republic of), Iraq, Jordan, Liberia, Malaysia, Mexico, Mongolia, Nepal, Nicaragua, Nigeria, Pakistan, Panama, Papua New Guinea, Peru, Philippines, Romania, Sri Lanka, Sudan, Thailand, Togo, United Republic of Tanzania, Venezuela, Yugoslavia, Zaire and Zambia), the Depositary Governments, in accordance with article II of the Treaty, took steps to initiate the convening of a Conference to consider the amendment to the Treaty proposed by Indonesia, Mexico, Peru, Sri Lanka, Venezuela and Yugoslavia.

8. In 1989, informal consultations among the parties to the Treaty were held in New York. In addition, the General Assembly, in resolution 44/106, adopted a majority, recommended that a preparatory committee, open to all parties to the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water, should be established to make arrangements for the Amendment Conference and that such preparatory committee should meet at United Nations Headquarters from 29 May to 1 June 1990, followed by a one-week session of the Conference from 4 to 8 June 1990 and a second substantive session from 7 to 18 January 1991.

9. Thereafter, six meetings of the interested States that are party to the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water and 15 open-ended informal consultations took place between 12 January and 25 May 1990.

10. At their meeting on 8 March 1990, the interested States parties to the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water decided to hold the Amendment Conference in New York from 7 to 18 January 1991, preceded by the Meeting of the Organization of the Conference from 29 May to 8 June 1990. In accordance with that decision, the Meeting, in which 74 States parties participated, took place at United Nations Headquarters in New York, from 29 May to 8 June 1990. The States parties agreed: to adopt the provisional agenda of the Amendment Conference, to adopt the draft rules of procedures of the Amendment Conference and to request the Secretariat to prepare for the Amendment Conference a brief background document. Furthermore, the Meeting invited the parties to the Treaty, in particular the nuclear-weapon States parties to the Treaty, to submit for distribution before the Conference their views regarding the verification of a comprehensive nuclear-test ban. The Meeting adopted by consensus its final report to be transmitted to the Amendment Conference. 3/

11. At its forty-fifth session, in 1990, the General Assembly adopted by a majority resolution 45/50 on the Amendment Conference. Its operative part reads as follows:

"The General Assembly,

"...

"1. Notes with satisfaction that the Amendment Conference of the States Parties to the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water will be held in New York from 7 to 18 January 1991;

"2. Calls upon all parties to the Treaty to participate in, and to contribute to the success of, the Amendment Conference for the achievement of a comprehensive nuclear-test ban at an early date, as an indispensable measure towards implementation of their undertakings in the preamble to the Treaty;

"3. Reiterates its conviction that, pending the conclusion of a comprehensive nuclear-test-ban treaty, the nuclear-weapon States should suspend all nuclear-test explosions through an agreed moratorium or unilateral moratoria;

"4. Recommends that arrangements be made to ensure that intensive efforts continue, under the auspices of the Amendment Conference, until a comprehensive nuclear-test-ban treaty is achieved;

"5. Recommends also that the Amendment Conference establish a working group, or other means it deems appropriate, to study, inter alia, the organization of control, institutional mechanisms and legal aspects of a comprehensive nuclear-test-ban treaty and to report its conclusions to the Conference;

"6. Stresses the importance of ensuring adequate co-ordination among the various negotiating forums dealing with a comprehensive nuclear-test-ban treaty;

"7. Decides to include in the provisional agenda of its forty-sixth session the item entitled 'Amendment of the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water'."

II. COMPILATION OF MATERIAL ON:

A. A historical review of the role ascribed to a comprehensive test ban in contributing to the cessation of the nuclear-arms race

12. Throughout the nuclear era, and in particular since the advent of the thermonuclear weapon in the early 1950s, the cessation of nuclear-weapon tests has been one of the most prominent issues on the disarmament agenda. No other question in the field of disarmament has been the subject of so much international concern, discussion, study and negotiation as that of stopping nuclear-weapon tests. The suggestion of concluding an agreement to ban the testing of nuclear weapons was first made by India in 1954, when it called for a "standstill agreement" with regard to nuclear explosions. It was, thereafter, discussed in the General Assembly of the United Nations, the five-Power Sub-Committee of the Disarmament Commission, in the three-Power Conference on the Discontinuance of Nuclear-Weapon Tests, in the Eighteen-Nation Committee on Disarmament (ENDC) and in the Conference of the Committee on Disarmament (CCD) as well as in the Conference on Disarmament either as an independent measure or as part of a broader disarmament agreement.

13. The discussions in all these various forums during the past decades revealed that, as in other fields of nuclear disarmament, the views on the role of a comprehensive test ban in contributing to the cessation of the nuclear-arms race widely differed between nuclear-weapon States and non-nuclear-weapon States, and among the nuclear-weapon States themselves.

14. The development and atmospheric testing of thermonuclear weapons in the early 1950s spurred demands for the cessation of all nuclear-weapon tests. Many avenues have been explored in efforts to achieve a comprehensive test ban. Over the years, many non-nuclear-weapon States have, however, increasingly questioned whether there was sufficient determination to bring about a cessation of all nuclear-weapon testing. A number of non-nuclear-weapon States have stated that they view the issue of a comprehensive test ban as a litmus test of the determination of the nuclear-weapon States to halt the nuclear-arms race.

15. In 1955, the Soviet Union called for an early and separate agreement suspending or banning all tests as one of the first measures within a programme for the reduction of armaments and the prohibition of atomic weapons. 4/ In 1957, it formally proposed agreement on the immediate cessation of all atomic and hydrogen tests, if only for a period of two or three years. 5/ Memoranda suggesting various ways of dealing with the regulation or cessation of nuclear-weapon tests were

submitted by India, Japan, Norway and Yugoslavia. 6/ The Western Powers regarded the limitation and eventual banning of nuclear testing, with adequate supervision, as part of a comprehensive disarmament programme and maintained that any temporary suspension of tests must be linked to the cessation of the production of fissionable material for weapons purposes.

16. In 1958, the United States and the Soviet Union agreed to convene a conference of experts to study the possibility of detecting violations of an agreement on the suspension of nuclear tests. The Conference was held from 1 July to 21 August 1958 at Geneva. The work of the Conference and its report paved the way for the convening of the Conference on the Discontinuance of Nuclear-Weapon Tests, with the participation of the Soviet Union, the United Kingdom and the United States. The Conference was held at Geneva from October 1958 to January 1962. A voluntary suspension of nuclear-weapon tests by the negotiating Powers went into effect at about the time negotiations commenced (the last United States test was on 30 October, the last USSR test was on 3 November). The suspension came to an end in the course of 1961.

17. At the outset of the work of the Conference, the Soviet Union submitted a draft treaty which provided for an obligation by the three nuclear Powers involved to cease all tests of nuclear weapons. 7/ On 11 February 1960 the United States, supported by the United Kingdom, submitted to the Conference a proposal for "a phased treaty" which called for a ban on all tests in those environments where effective control could be established. 8/ The Soviet response was positive, in principle, but its counter-proposal of 19 March 1960 9/ did not provide for on-site inspection as proposed by the United States and the United Kingdom. In a joint declaration of 29 March 1960, the United Kingdom and the United States agreed to the Soviet proposal, provided that the moratorium proposed by the Soviet Union would be for a fixed period only. 10/ Nevertheless, little progress was made at the Conference owing to differences which arose in connection with other sensitive issues, such as the composition of the control commission and the question of decision-making in that body. On 18 April 1961, the United States and the United Kingdom submitted a draft treaty which incorporated a number of new elements. 11/

18. The deterioration in political relations between the two sides, which became apparent in the second half of 1961, had a strong bearing not only on the progress of the negotiations but also on the conduct of their respective nuclear programmes. Thus, on 30 August 1961, the Soviet Government declared that it had been compelled, in order to strengthen its security, to take a number of steps, including the carrying out of experimental nuclear-weapon explosions. The Soviet Union resumed nuclear tests in the atmosphere on 1 September 1961. The United States resumed underground testing on 15 September.

19. Upon the resumption of the Geneva Conference on 28 November 1961, the Soviet Union reiterated its opposition to any test-ban treaty under international control while the arms race continued, and said that a new approach was necessary. To this end, it put forward a draft agreement on the discontinuance of nuclear-weapon tests in the atmosphere, in outer space and under water, which provided for supervision of the ban to be carried out through existing national means of detection and also for a moratorium on underground tests until a control system had been developed as

part of a system of control over general and complete disarmament. 12/ The United States and the United Kingdom rejected the proposal because, inter alia, in their opinion it contravened the recommendations of the 1958 Conference of experts, and also the terms of Assembly resolution 1649 (XVI) calling for the establishment of international control over a test-ban agreement and found the idea of an unverified moratorium on underground tests unacceptable.

20. After the Conference on the Discontinuance of Nuclear-Weapon Tests adjourned in January 1962, the question of nuclear-weapon tests was taken up in the ENDC when it started its work in March that year. In order to break the impasse in the negotiations, the eight non-aligned members of the ENDC - Brazil, Burma, Ethiopia, India, Mexico, Nigeria, Sweden and the United Arab Republic - submitted, on 16 April 1962, a joint memorandum 13/ in which they emphasized the possibility of establishing a system for continuous observations and effective control of nuclear tests on a purely scientific basis. All three nuclear Powers accepted the memorandum as one of the bases for negotiations at the Conference.

21. On 27 August 1962, the United States and the United Kingdom submitted two alternative draft treaties. One was a comprehensive treaty envisaging a ban on tests in all environments and making provision for a quota of on-site inspections in the case of suspicious underground events. 14/ The other contemplated a test ban in the three non-controversial environments - in the atmosphere, in outer space and under water - without international verification. 15/ The Soviet Union rejected the proposal for a comprehensive treaty on the grounds that it ran counter to the eight-Power memorandum of 16 April and did not depart from the principle of compulsory on-site inspection. The Soviet Union also rejected the partial treaty on the ground that it excluded underground tests, but was not opposed to considering such a partial treaty if underground tests were voluntarily suspended until a comprehensive solution of the problem was reached. It supported a Mexican proposal that there should be cessation of all tests from 1 January 1963. 16/ Still expressing its preference for a comprehensive ban, the Soviet Union, on 10 December 1962, offered a new guarantee for effective control of such agreement. 17/ In addition to existing manned national means of detection, it proposed the use of automatic seismic stations ("black boxes"). The United States agreed that the "black boxes" might be a useful adjunct to manned detection stations if used in sufficient numbers and if properly equipped, operated and located. The United Kingdom formally proposed that the whole question be examined by experts, without any pre-condition.

22. When the ENDC reconvened on 12 February 1963, it again concentrated on a comprehensive treaty banning tests in all environments. While there was agreement on basic principles, there was disagreement on the number of annual inspections and on the number of automatic seismic stations. The Soviet Union proposed 2 to 3 annual on-site inspections and the United States proposed from 8 to 10, but later reduced the figure to 7. The Soviet Union proposed 3 automatic seismic stations and the United States 7. On 10 June 1963, the non-aligned members of the Committee - Ethiopia, Nigeria and the United Arab Republic - submitted a joint memorandum suggesting that for the time being "three, four or so yearly truly effective inspections - or an adequately proportionate figure spread over more

years", might be needed to dispel mutual suspicions and to facilitate reaching a settlement. 18/

23. On 10 June, it was announced that the Soviet Union, the United Kingdom and the United States had agreed to hold talks in Moscow in mid-July on the cessation of nuclear tests. On 2 July, the Soviet Union stated that the insistence of the United States and the United Kingdom on on-site inspections made an underground ban impossible, and that the Soviet Union was therefore prepared to sign a limited treaty banning tests in the three non-controversial environments - in the atmosphere, in outer space and under water. 19/ The negotiations, which began in Moscow on 15 July ended on 25 July when the text of the Treaty was initialled. It was signed by the three nuclear-weapon Powers and opened for signature on 5 August 1963. The Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water (partial test-ban Treaty - also known as the Moscow Treaty) entered into force on 10 October 1963 and, as of 25 October 1990, had 117 parties. In the second preambular paragraph, the original parties to the Treaty, the United States, the United Kingdom and the Soviet Union st ed that they sought to achieve "the discontinuance of all test explosions of nuclear weapons for all time" and expressed their determination to continue negotiations to that end.

24. The General Assembly, by resolution 1910 (XVIII) OF 27 November 1963, noting with approval the Treaty, requested the ENDC "to continue with a sense of urgency its negotiations to achieve the objectives set forth in the preamble of the Treaty". After the conclusion of the partial test-ban Treaty, efforts towards achieving a comprehensive test ban continued in the General Assembly and in the negotiating bodies, in particular the ENDC (until 1969), the CCD (1969-1978), the Committee on Disarmament (1979-1983) and the Conference on Disarmament (since 1984). In these bodies, a large number of suggestions and proposals for achieving a comprehensive nuclear-test-ban treaty were submitted over the years, by both nuclear- and non-nuclear-weapon States. Many of them have stressed the impact that, in their view, a comprehensive test ban would have on the cessation of the nuclear-arms race.

25. On 14 September 1964, the eight non-aligned members of the ENDC submitted a joint memorandum 20/ on the partial test-ban Treaty in which they expressed the hope that all States would adhere to it; regretted that no progress had been made towards completing the ban; and urged the nuclear Powers to press on with negotiations to extend the ban. On 15 September 1965, the eight non-aligned countries represented in the ENDC submitted a joint memorandum on a comprehensive test-ban treaty. They stated that a comprehensive test ban "will not only consolidate the partial test ban Treaty but also in itself constitute a measure towards non-proliferation of nuclear weapons". 21/ Again, in a joint memorandum submitted one year later, on 17 August 1966, the eight non-aligned States expressed their concern over the lack of progress on an underground test ban and stressed the danger of continued atmospheric and underground testing. 22/

26. In a message to the ENDC on 27 January 1966, President Johnson stated that the United States "persists in its belief that the perils of proliferation would be materially reduced by an extension of the limited test ban treaty to cover underground nuclear tests". 23/

27. The representative of the United Kingdom, on 16 July 1968, stated in the ENDC that the banning of underground nuclear tests, while closely related to any agreement on the limitation of offensive and defensive nuclear weapons and an associated cut-off of production of fissile material for nuclear weapons, was a measure of cardinal importance because the real danger of vertical proliferation lay in the development of more sophisticated weapons systems. Purely quantitative control, he added, would achieve nothing if the nuclear weapons that were permitted became more costly and more deadly. The merit of a comprehensive test-ban treaty was that it would prevent the development of more sophisticated weapon systems. 24/

28. On 5 December 1968, the United States representative stated in the United Nations General Assembly that foremost among the arms control issues was the problem of nuclear disarmament. The ENDC had recognized the pre-eminence of this area of concern in the programme of work it had adopted at its previous session. From the discussion in the Committee it was also clear that, within the broad and complex field of disarmament, the question of further limitations on nuclear-weapon testing stood as a priority item. 25/

29. On 30 July 1968 the representative of Sweden stated in the ENDC that the completion of a ban on nuclear testing would be a very important disarmament measure, which had been promised in article VI of the non-proliferation Treaty. The cessation of the further development and refinement of nuclear weapons - that is, qualitative nuclear disarmament - now seemed the most timely of the possible nuclear disarmament measures. Since "overkill" capacity had been reached by the main nuclear-weapon Powers, it was the race concerned with changing the quality of the weapon systems that was threatening to upset the precarious balance in which the world was living. 26/

30. In 1973, at a special meeting of the CCD held on the occasion of the tenth anniversary of the partial test-ban Treaty, nearly all speakers underlined the importance of the Treaty and the need to complete it with an underground test ban. The three nuclear-weapon Powers, in particular, stressed the role that the Treaty had played in reducing world tensions, curbing nuclear-arms proliferation and promoting arms limitation measures. At the same time, several non-aligned members of the CCD, supported by a number of Western countries, expressed dissatisfaction that the goal of discontinuing all nuclear-weapon tests had not been fulfilled.

31. The Final Document of the Tenth Special Session of the General Assembly, the first special session devoted to disarmament, held in 1978, identified the cessation of nuclear-weapon tests as a most important initial measure in working towards the priority requirement of nuclear disarmament. It stated that the cessation of nuclear-weapon testing by all States within the framework of an effective nuclear disarmament process would be in the interest of mankind. It would make an important contribution to the goal of ending the qualitative improvement of nuclear weapons and the development of new types of such weapons, and of preventing their proliferation. 27/ The issue of a comprehensive nuclear-test ban was also discussed extensively at the second and third special sessions of the General Assembly devoted to disarmament, held in 1982 and in 1988, respectively. At those sessions, however, it was not possible to agree on a substantive final document.

32. The parties to the Six-Nation Initiative (Argentina, Greece, India, Mexico, Sweden and the United Republic of Tanzania), in their Delhi Declaration of 1985, 28/ urged the nuclear-weapon States to halt immediately the testing of all kinds of nuclear weapons, and to conclude, at an early date, a treaty on a nuclear-weapon-test ban. In their view, such a treaty would be a major step towards ending the continuous modernization of nuclear arsenals. In the Mexico Declaration of 1986, 29/ they, inter alia, stated their conviction that no issue was more urgent and crucial than bringing to an end all nuclear tests. Both the qualitative and the quantitative development of nuclear weapons, they stated, exacerbated the arms race, and both would be inhibited by the complete abolition of nuclear-weapon testing. The same countries, in the Stockholm Declaration of 1988, 30/ affirmed that agreements to reduce existing nuclear arsenals must be backed up by decisive measures to check the unbridled development of new generations of ever more dreadful and sophisticated nuclear weapons. In their view, the single most effective measure would be to end all nuclear-weapon tests, by all States; such a step, they held, would be of crucial importance for preventing the spread of nuclear weapons to countries which had so far refrained from acquiring them. Referring to the bilateral Soviet-American negotiations on gradually establishing lower limits on nuclear tests, the six countries stated that any agreement that left room for continued testing would not be acceptable.

33. The Secretary-General of the United Nations, on numerous occasions, has raised the issue of a nuclear-test ban. For instance, in a statement to the then Conference of the Committee on Disarmament, on 29 February 1972, 31/ he expressed his belief that all the technical land scientific aspects of the problem had been so fully explored that only a political decision was necessary in order to achieve final agreement. There was an increasing conviction among the nations of the world, he stated, that an underground test ban was the single most important measure, and perhaps the only feasible one in the near future, to halt the nuclear-arms race, at least with regard to its qualitative aspects. In his foreword to the 1980 United Nations study on a comprehensive test ban, the Secretary-General stressed the vital importance of a general and complete test ban as an indispensable first step towards halting the nuclear-arms race. Addressing a plenary meeting of the General Assembly on 12 December 1984, 32/ after appealing for a renewed effort towards a comprehensive test-ban treaty, the Secretary-General emphasized that no single multilateral agreement could have a greater effect on limiting the further refinement of nuclear weapons and that a comprehensive test-ban treaty was the litmus test of the real willingness to pursue nuclear disarmament. In his 1987 report on the work of the Organization, 33/ the Secretary-General pointed to the desirability of early agreement on a comprehensive test-ban treaty, which for many years had been viewed in the United Nations as a measure having cardinal importance. He observed that testing directed at developing new weapons or perfecting those deployed would perpetuate competition and mistrust and reduce the value of agreements in force on the elimination of certain types of weapons. In 1990, speaking on the occasion of the observance of Disarmament Week, the Secretary-General, inter alia, reiterated the desirability of a comprehensive test-ban treaty and urged all sides to seek to make progress on that sensitive issue.

B. Nuclear-weapon-test explosions and any other nuclear explosions conducted since 5 August 1963

34. All five nuclear-weapon States conduct nuclear tests as part of their weapons programmes. It has been reported that between 1963 and 1989 there were 1,271 internationally recorded tests (see table below).

35. In addition to testing related to weapons programmes, some of the nuclear-weapon States have also carried out tests related to civilian activities. Five major treaties on arms limitation and disarmament (the Antarctic Treaty; the Treaty of Tlatelolco; the non-proliferation Treaty; the PNE Treaty between the United States and the USSR; and the Treaty of Rarotonga) deal in whole or in part with the issue of peaceful nuclear explosions. The United States and the Soviet Union began conducting peaceful nuclear explosions (PNEs) in the 1960s. The United States terminated its programme in 1977. The Soviet Union has had an active PNE programme and has conducted over 100 detonations beginning in 1965. However, in recent years the programme has been decisively scaled back. France has carried out research on peaceful nuclear explosions but never conducted any such test. China and the United Kingdom have never expressed any interest in peaceful nuclear explosions, and there are no indications that they have ever had such programmes. In 1974 India announced that it has carried out a peaceful nuclear explosion. With regard to South Africa, the question has been raised whether that country will no longer continue to pursue the goal of nuclear-weapon capability and from now on focus exclusively on the peaceful uses of nuclear energy. 34/ Obviously, this would be in the general interest of non-proliferation, as long as an effective non-proliferation régime is maintained.

Table

Estimated number of nuclear explosions 6 August 1963-31 December 1989

a = atmospheric
u = underground

	USA a/		USSR		UK a/		France		China		India		
Year	a	u	a	u	a	u	a	u	a	u	a	u	Total
6 Aug.-31 Dec.													
1963	0	15	0	0	0	0	0	1					16
1964	0	38	0	6	0	1	0	3	1	0			49
1965	0	36	0	9	0	1	0	4	1	0			51
1966	0	43	0	15	0	0	5 b/	1	3	0			67
1967	0	34	0	17	0	0	3	0	2	0			56
1968	0	45 c/	0	13	0	0	5	0	1	0			64
1969	0	38	0	16	0	0	0	0	1	1			56
1970	0	35	0	17	0	0	8	0	1	0			61
1971	0	17	0	19	0	0	5 b/	0	1	0			42
1972	0	18	0	22	0	0	3	0	2	0			45
1973	0	16 d/	0	14	0	0	5	0	1	0			36
1974	0	14	0	18	0	1	7 b/	0	1	0	0	1	42
1975	0	20	0	15	0	0	0	2	0	1	0	0	38
1976	0	18	0	17	0	1	0	4	3	1	0	0	44
1977	0	19	0	18	0	0	0	8 e/	1	0	0	0	46
1978	0	17	0	27	0	2	0	8	2	1	0	0	57
1979	0	15	0	29	0	1	0	9	1 f/	0	0	0	55
1980	0	14	0	21	0	3	0	13	1	0	0	0	52
1981	0	16	0	22	0	1	0	12	0	0	0	0	51
1982	0	18	0	31	0	1	0	6	0	1	0	0	57
1983	0	17	0	27	0	1	0	9	0	2	0	0	56
1984	0	17	0	29	0	2	0	8	0	2	0	0	58
1985	0	17	0	9	0	1	0	8	0	0	0	0	35
1986	0	14	0	0	0	1	0	8	0	0	0	0	23
1987	0	14	0	23	0	1	0	8	0	1	0	0	47
1988	0	14	0	17	0	0	0	8	0	1	0	0	40
1989	0	11	0	7	0	1	0	8	0	0	0	0	27
Total	0	590	0	458	0	19	41	128	23	11	0	1	1 271

(Source and footnotes on following page)

(Source and footnotes to table)

Source: SIPRI Yearbook 1990: World Armaments and Disarmament (New York, Oxford University Press, 1990), pp. 56 and 57 (table 2A.3).

a/ All British tests from 1962 have been conducted jointly with the United States at the Nevada Test Site. Therefore, the number of United States tests is actually higher than indicated here.

b/ One more test was conducted this year, but it did not cause any detonation.

c/ Five devices used simultaneously in the same test are counted here as one explosion.

d/ Three devices used simultaneously in the same test are counted here as one explosion.

e/ Two of these tests may have been conducted in 1975 or 1976.

f/ This explosion may have been conducted underground.

C. United Nations General Assembly resolutions relevant to the question of a comprehensive nuclear-test ban and a moratorium on nuclear-weapon testing

36. The complete cessation of nuclear-weapon tests has been a prime objective of the General Assembly of the United Nations in the field of disarmament. The question has been considered by the General Assembly every year since 1954. Since 1957, it has been a separate item on the agenda of the Assembly. The Assembly has adopted some 70 resolutions related to nuclear-weapon testing - far more than on any other issue of disarmament.

37. Among the early resolutions relevant to the question of nuclear testing, which were adopted by the General Assembly prior to the conclusion of the PTBT, the following should be mentioned: 913 (X), 914 (X), 1148 (XII), 1252 (XIII), 1379 (XIV), 1402 (XIV), 1577 (XV), 1578 (XV), 1632 (XVI), 1648 (XVI), 1649 (XVI), 1762 (XVII).

38. Following the conclusion of the PTBT in 1963 (see para. 23 above), the General Assembly, by resolution 1910 (XVIII) of 27 November 1963, noted the Treaty with approval and requested the CCD to continue negotiations for a comprehensive test ban. After the conclusion of the PTBT, efforts were directed towards achieving a comprehensive test ban. Debates in the General Assembly have reflected continuing disagreement regarding the way a test-ban objective might best be achieved.

39. Since 1965, the General Assembly has annually adopted resolutions on the subject of nuclear testing, including the following: 2032 (XX), 2163 (XXI), 2343 (XXII), 2455 (XXIII), 2604 (XXIV), 2663 (XXV), 2828 (XXVI), 2934 (XXVII), 3078 (XXVIII), 3257 (XXIX) and 3478 (XXX). Most resolutions adopted by the General Assembly over the last 15 years on the issue of nuclear testing have called for action on the part of the Geneva negotiating multilateral body (see paras. 40 to 42 below); others, since 1985, have envisaged the possibility of converting the partial test-ban Treaty into a comprehensive instrument (see paras. 1 to 11 above). The General Assembly has also adopted resolutions calling for notification of nuclear tests (see para. 42 below).

40. With regard to action by the Geneva negotiating body, the General Assembly has adopted a number of resolutions, originally initiated by Mexico and Sweden under the agenda item entitled "Cessation of all nuclear-test explosions". 35/ By these resolutions, the General Assembly, inter alia, reiterated its grave concern that nuclear-weapon testing continued unabated against the wishes of the overwhelming majority of Member States; reaffirmed its conviction that a treaty to achieve the prohibition of all nuclear-test explosions by all States for all time was a matter of the highest priority; reaffirmed its conviction that such a treaty would constitute a contribution of the utmost importance to the cessation of the nuclear-arms race; urged once more all nuclear-weapon States, in particular the three depositary Powers of the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water and of the Treaty on the Non-Proliferation of Nuclear Weapons, to seek to achieve the early discontinuance of all test explosions of nuclear weapons for all time and to expedite negotiations to that end; repeatedly appealed to all members of the Conference on Disarmament to promote the establishment by the Conference of an ad hoc committee with the

objective of carrying out multilateral negotiations of a treaty on the complete cessation of nuclear-test explosions.

41. By another series of resolutions, initiated by Australia and New Zealand under the agenda item entitled "Urgent need for a comprehensive nuclear-test-ban treaty", 36/ the General Assembly, inter alia, urged the Conference on Disarmament to establish an ad hoc committee on a nuclear-test ban, to intensify its consideration of that question and to initiate substantive work on all its aspects. Furthermore, States members of the Conference on Disarmament, in particular the nuclear-weapon States and all other States should co-operate in order to facilitate and promote such work; the nuclear-weapon States, especially those possessing the most important nuclear arsenals, were urged to agree promptly to appropriate verifiable and militarily significant interim measures, with a view to realizing a comprehensive nuclear-test-ban treaty; and those nuclear-weapon States which had not yet done so should adhere to the partial test-ban Treaty. Finally, the Conference on Disarmament was urged to take immediate steps for the establishment, with the widest possible participation, of an international seismic monitoring network with a view to the further development of its potential to monitor and verify compliance with a comprehensive nuclear-test-ban treaty.

42. Between 1982 and 1987, the General Assembly, under the agenda item entitled "Immediate cessation and prohibition of nuclear-weapon tests", adopted resolutions initiated by the Soviet Union and/or Hungary. 37/ By those resolutions, the General Assembly, taking note of the "Basic provisions of a treaty on the complete and general prohibition of nuclear-weapon tests", 38/ inter alia, urged the Conference on Disarmament to proceed promptly to negotiations on all aspects of a multilateral treaty on the prohibition of nuclear-weapon tests, including adequate measures of verification, with the aim of preparing without delay a draft treaty that would effectively ban all test explosions of nuclear weapons by all States everywhere and would contain provisions, acceptable to all, preventing the circumvention of such a ban by means of nuclear explosions for peaceful purposes; urged all States, especially all nuclear-weapon States, to exert maximum efforts and exercise political will for the elaboration and conclusion of such a treaty.

43. In 1986 and 1987, the General Assembly adopted resolutions 39/ initiated by Australia. By those resolutions, the General Assembly, inter alia, called upon each of the States conducting nuclear explosions to provide to the Secretary-General of the United Nations, within one week of each nuclear explosion, the geological characteristics of the site of the explosion and the estimated yield of the explosion. Furthermore, it invited all other States to provide to the Secretary-General any such data on nuclear explosions they might have available. The Secretary-General, in accordance with these resolutions, makes available to all Member States the information received and submits to the General Assembly annually a register of the information provided on nuclear explosions during the preceding 12-month period.

44. A large number of General Assembly resolutions specifically dealt with the issue of a moratorium, including the following: 1252 A (XIII); 1402 A and B (XIV); 1577 (XV) and 1578 (XV); 1648 (XVI); 1762 A (XVII); 2163 (XXI); 2343 (XXII);

2455 (XXIII); 2604 B (XXIV); 2663 B (XXV); 2828 B and C (XXVI); 2934 (XXVII); 3078 A (XXVIII); 3257 (XXIX); 3466 (XXX); 31/66, 32/78; 33/60; 33/71 C; 34/73; 35/145 A; 36/84; 37/72 and 37/85; 38/62 and 38/72; 39/52 and 39/60; 40/80 A and 40/88; 41/46 A and 41/54; 42/26 A; 43/63 A; 44/105.

D. Multilateral, regional and bilateral agreements and other initiatives related to a comprehensive nuclear-test ban

45. In the partial test-ban Treaty, the States parties expressed their determination to pursue further negotiations aimed at the discontinuance of all test explosions of nuclear weapons in all environments for all time. At the multilateral level, the matter was dealt with in the Geneva Conference on Disarmament and its predecessors. The Soviet Union and the United States for their part also conducted bilateral negotiations. There were also tripartite negotiations among the Soviet Union, the United Kingdom and the United States. These negotiations have in some cases led to agreement (multilateral, regional or bilateral) as recorded below.

1. Multilateral agreements

46. (a) The Antarctic Treaty (1959)

Article I reads as follows:

> "1. Antarctica shall be used for peaceful purposes only. There shall be prohibited, inter alia, any measures of a military nature, such as the establishment of military bases and fortifications, the carrying out of military manoeuvres, as well as the testing of any type of weapons."

(b) Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water (partial test-ban Treaty) (1963)

The preamble and articles I and II of the Treaty read as follows:

> "The Governments of the United States of America, the United Kingdom of Great Britain and Northern Ireland, and the Union of Soviet Socialist Republics, hereinafter referred to as the 'Original Parties',
>
> "Proclaiming as their principal aim the speediest possible achievement of an agreement on general and complete disarmament under strict international control in accordance with the objectives of the United Nations which would put an end to the armaments race and eliminate the incentive to the production and testing of all kinds of weapons, including nuclear weapons,
>
> "Seeking to achieve the discontinuance of all test explosions of nuclear weapons for all time, determined to continue negotiations to this end, and desiring to put an end to the contamination of man's environment by radioactive substances,

"Have agreed as follows:

"Article I

"1. Each of the Parties to this Treaty undertakes to prohibit, to prevent, and not to carry out any nuclear-weapon-test explosion, or any other nuclear explosion, at any place under its jurisdiction or control:

"(a) In the atmosphere; beyond its limits, including outer space; or under water, including territorial waters or high seas; or

"(b) In any other environment if such explosion causes radioactive debris to be present outside the territorial limits of the State under whose jurisdiction or control such explosion is conducted. It is understood in this connection that the provisions of this subparagraph are without prejudice to the conclusion of a treaty resulting in the permanent banning of all nuclear test explosions, including all such explosions underground, the conclusion of which, as the Parties have stated in the Preamble to this Treaty, they seek to achieve.

"2. Each of the Parties to this Treaty undertakes furthermore to refrain from causing, encouraging, or in any way participating in, the carrying out of any nuclear-weapon-test explosion, or any other nuclear explosion, anywhere which would take place in any of the environments described, or have the effect referred to, in paragraph 1 of this Article.

"Article II

"1. Any Party may propose amendments to this Treaty. The text of any proposed amendment shall be submitted to the Depositary Governments which shall circulate it to all Parties to this Treaty. Thereafter, if requested to do so by one third or more of the Parties, the Depositary Governments shall convene a conference, to which they shall invite all the Parties, to consider such amendment.

"2. Any amendment to this Treaty must be approved by a majority of the votes of all the Parties to this Treaty, including the votes of all of the Original Parties. The amendment shall enter into force for all Parties upon the deposit of instruments of ratification by a majority of all the Parties, including the instruments of ratification of all of the Original Parties."

(c) Treaty on the Non-Proliferation of Nuclear Weapons (non-proliferation Treaty) (1968)

The tenth preambular paragraph reads as follows:

"Recalling the determination expressed by the Parties to the 1963 Treaty banning nuclear-weapon tests in the atmosphere, in outer space and under water in its Preamble to seek to achieve the discontinuance of all test explosions of nuclear weapons for all time and to continue negotiations to this end,".

Article VI reads as follows:

"Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control."

(d) Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Sea-Bed and the Ocean Floor and in the Subsoil Thereof (sea-bed Treaty) (1971)

Article I, paragraph 1, of the Treaty reads as follows:

"1. The States Parties to this Treaty undertake not to emplant or emplace on the sea-bed and the ocean floor and in the subsoil thereof beyond the outer limit of a sea-bed zone, as defined in article II, any nuclear weapons or any other types of weapons of mass destruction as well as structures, launching installations or any other facilities specifically designed for storing, testing or using such weapons."

(e) Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (outer space Treaty) (1967)

Article IV, second paragraph, reads as follows:

"The Moon and other celestial bodies shall be used by all States Parties to the Treaty exclusively for peaceful purposes. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military manoeuvres on celestial bodies shall be forbidden. The use of military personnel for scientific research or for any other peaceful purposes shall not be prohibited. The use of any equipment or facility necessary for peaceful exploration of the Moon and other celestial bodies shall also not be prohibited."

(f) Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (Agreement on celestial bodies) (1979)

Article 3, paragraph 4, reads as follows:

"4. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military manoeuvres on the moon shall be forbidden. The use of military personnel for scientific research or for any other peaceful purposes shall not be prohibited. The use of any equipment or facility necessary for peaceful exploration and use of the moon shall also not be prohibited."

2. Regional agreements

47. (a) Treaty for the Prohibition of Nuclear Weapons in Latin America and the Caribbean (Treaty of Tlatelolco) (1967)

Article 1, subparagraph 1 (a) and paragraph 2, read as follows:

"1. The Contracting Parties hereby undertake to use exclusively for peaceful purposes the nuclear material and facilities which are under their jurisdiction, and to prohibit and prevent in their respective territories:

"(a) The testing, use, manufacture, production or acquisition by any means whatsoever of any nuclear weapons, by the Parties themselves, directly or indirectly, on behalf of anyone else or in any other way,

"...

"2. The Contracting Parties also undertake to refrain from engaging in, encouraging or authorizing, directly or indirectly, or in any way participating in the testing, use, manufacture, production, possession or control of any nuclear weapon."

(b) South Pacific Nuclear Free Zone Treaty (Treaty of Rarotonga) (1985)

Article 6 reads as follows:

"Each Party undertakes:

"(a) To prevent in its territory the testing of any nuclear explosive device;

"(b) Not to take any action to assist or encourage the testing of any nuclear explosive device by any State."

3. Bilateral and trilateral agreements and activities

48. As a result of their bilateral negotiations on the banning of all nuclear testing, the Soviet Union and the United States, in 1974, signed the Treaty on the Limitation of Underground Nuclear Weapon Tests (threshold test-ban Treaty - TTBT). The Treaty prohibits any underground nuclear-weapon test having a yield in excess of 150 kilotons and restricts testing to specified areas. Each party agreed to use its national technical means of verification and not to interfere with the means of verification of the other party. The parties also agreed to exchange information necessary to improve the assessments of the yields of explosions. In 1976 the two States signed the Treaty on Underground Nuclear Explosions for Peaceful Purposes (PNET). This Treaty regulates the explosions which they might conduct outside their nuclear-weapon test sites and which may, therefore, be presumed to be for peaceful purposes. Both Treaties established a yield threshold of 150 kilotons for individual nuclear explosions. The Treaties were not ratified because of differences over the verification provisions, but since 1987 the United States and the Soviet Union have negotiated new verification protocols. The Protocols were

signed in June 1990, thus paving the way for the approval of both Treaties by the legislative bodies of the United States and the USSR. In spite of their arms regulation features, critical observations have been made about the Treaties by a number of Member States on the ground that the threshold level is too high and would not contribute to the cessation of the nuclear-arms race, that the threshold exceeds by many times the verification capabilities, and both Treaties assume the continuation of nuclear tests.

49. In addition to the tripartite talks described in paragraphs 16 to 20 above, between 1977 and 1980 trilateral negotiations were held among the Soviet Union, the United Kingdom and the United States with a view to negotiating a comprehensive nuclear-test-ban treaty and a protocol covering peaceful nuclear explosions. A progress report on the trilateral negotiations was submitted to the then Committee on Disarmament on 30 July 1980 40/ and resubmitted by the three negotiating parties at the Second Review Conference of the non-proliferation Treaty. 41/ In the report, the three negotiating Powers recorded that considerable progress had been made in negotiating a comprehensive test-ban treaty and provided information on the scope of the treaty, the provision of verification procedures and an accompanying protocol on nuclear explosions for peaceful purposes. According to the report, the negotiating parties, inter alia, agreed that the treaty would require each party to prohibit, prevent and not to carry out any nuclear-weapon-test explosion at any place under its jurisdiction or control in any environment, and to refrain from causing, encouraging or in any way participating in the carrying out of any nuclear-weapon-test explosion anywhere. The three negotiating parties were determined, they stated, to exert their best efforts and the necessary will and persistence to bring the negotiations to an early and successful conclusion. The negotiations were not continued, however, after 1980.

50. On 20 July 1982, the United States stated that it was not prepared to resume the trilateral negotiations. Nuclear-weapon testing, it explained, was vital to the security of the United States in order to maintain confidence in its nuclear deterrent. The United States reaffirmed that concluding a comprehensive test ban remained its long-term goal and stated its belief that such a ban should be considered in the context of broad, deep and verifiable arms reductions, expanded confidence-building measures and improved verification capabilities.

51. From July 1986 to July 1987, USSR/United States expert meetings on nuclear-testing issues took place at Geneva. In November 1987, the two sides began actual negotiations on nuclear testing. They agreed to conduct those negotiations on a stage-by-stage basis, with the aim of reaching agreement, as a first step, on verification measures to make possible a ratification of the 1974 and 1976 test limitation Treaties (see para. 48 above). Thereafter, they would proceed to negotiate further intermediate limitations on nuclear testing, leading ultimately to its complete cessation as part of an effective disarmament process.

52. The Soviet Union, beginning on 6 August 1985, unilaterally halted all its nuclear testing until 1 January 1986 and called upon the United States to do so as well. The Soviet moratorium, subsequently renewed four times, was maintained for a period totalling 18 months, until February 1987. The United States, however, together with some other countries, did not accept the idea of an unverified,

unilateral, revocable moratorium. The United States in particular has continued to regard the agreed reduction of numbers of nuclear weapons on the basis of verifiable, binding treaties as a more urgent issue than a comprehensive test ban.

53. A number of proposals, ideas and other initiatives by individual States as well as by various groups of States relating to a comprehensive test ban were put forward over the years. Among them were:

- "Draft treaty on the complete and general prohibition of nuclear-weapon tests" submitted by the Soviet Union in 1975, amended in 1976, and resubmitted, as amended, in 1977; 42/

- "Draft Treaty Banning Nuclear Weapon Test Explosions in all Environments" submitted by Sweden in 1977; 43/

- "Basic provisions of a treaty on the complete and general prohibition of nuclear-weapon tests", submitted to the General Assembly by the Soviet Union in 1982; 44/

- "Draft treaty banning any nuclear-weapon test explosion in any environment", submitted to the Committee on Disarmament by Sweden in 1983; 45/

- "Documents of the parties to the Six-Nation Initiative (Argentina, Greece, India, Mexico, Sweden and the United Republic of Tanzania); the Joint Declaration of May 1984; 46/ the Delhi Declaration of January 1985; 47/ the Mexico Declaration of August 1986; 48/ and the Stockholm Declaration of January 1988; 49/

- "Basic provisions of a treaty on the complete and general prohibition of nuclear-weapon tests" (new version), submitted to the Conference on Disarmament by the Soviet Union and other Eastern European States in 1987; 50/

- "Action plan for ushering in a nuclear-weapon-free and non-violent world order", submitted by India to the General Assembly at its fifteenth special session in 1988. 51/

E. 1980 report of the Secretary-General on a comprehensive test ban

54. Following the adoption of General Assembly decision 34/422 of 11 December 1979, the Secretary-General prepared, with the assistance of consultant experts, a study on the question of a comprehensive nuclear-test ban, and pursuant to the decision, submitted it to the Committee on Disarmament, at its spring session of 1980, and subsequently to the General Assembly itself. 52/

55. The report gave a background summary of the development of the issue, described the negotiations leading to the conclusion of the partial test-ban Treaty

and the Treaty on the Non-Proliferation of Nuclear Weapons, the deliberations and negotiations in the General Assembly and in negotiating bodies from 1963 to 1979, as well as the trilateral negotiations of the Soviet Union, the United Kingdom and the United States on a comprehensive test ban, held between 1977 and 1979. The report also discussed the major unresolved issues, inter alia, the verification, scope and duration of a comprehensive test ban.

56. The experts concluded, inter alia, that it was essential to intensify negotiations in order to achieve a comprehensive test ban. THey also agreed that a comprehensive test ban could serve as an important measure of non-proliferation of nuclear weapons, both vertical and horizontal, and that verification of compliance no longer seemed to be an obstacle to reaching agreement. They further noted that, in the view of the parties to the non-proliferation Treaty, a comprehensive test ban would reinforce that Treaty by demonstrating the awareness of the major nuclear Powers of the legal obligation under article VI of the Treaty, and that the benefits of a comprehensive test ban for arms limitation could be enhanced if it were followed by restrictions on the qualitative improvements of nuclear delivery vehicles.

III. THE IMPLICATIONS OF A COMPREHENSIVE TEST BAN FOR:

A. The nuclear-arms race and the development of new weapon systems that involve nuclear testing, including those for outer space

57. The question of the impact that a comprehensive test ban would have on the nuclear-arms race and particularly on the development of new types of nuclear weapons is one of the most controversial issues regarding a nuclear-test ban. One reason why States are so divided on this problem is rooted in the different security perceptions of individual States. Nuclear-weapon testing has continued since the conclusion of the partial test-ban Treaty because certain States have felt that, in the existing circumstances, the security interests of those States are promoted by developing new weapons, further refining existing ones, confirming the effectiveness of their stocks, and enhancing the safety and security features of nuclear weapons. Those States regard the agreed reduction of numbers of nuclear weapons on the basis of negotiated, binding treaties as a more urgent issue than a comprehensive test ban. Nevertheless, the great majority of States consider a comprehensive nuclear-test ban as the key to halting the qualitative development of nuclear weapons and to progressive nuclear disarmament. In brief, the continued testing of nuclear weapons remains a major unresolved issue. In this connection, the view has also been expressed that the state of stockpiled nuclear weapons can be checked without nuclear testing.

58. The divergence of views among various States and groups of States on the impact that a nuclear-test ban would have on the nuclear-arms race has also characterized the work of the Conference on Disarmament, where the multilateral efforts towards a nuclear-test ban have mainly centred. In 1982, 1983 and again in 1990, the Conference on Disarmament established a subsidiary body on a test ban, but entrusted it with only a limited, non-negotiating mandate.

59. Over the years, in the Conference on Disarmament, members of the Group of 21 (mostly neutral and non-aligned countries) have continued to attach the utmost importance to the urgent conclusion of a comprehensive test-ban treaty as a significant contribution to the aim of ending the qualitative improvement of nuclear weapons and the development of new types of such weapons as well as of reversing the nuclear-arms race and achieving nuclear disarmament. Commenting on the negotiations between the two major nuclear-weapon States on nuclear testing on a stage-by-stage basis, they reiterated their view that the existing bilateral thresholds did not preclude the modernization of nuclear weapons and thus failed to contribute to the cessation of the qualitative development of nuclear weapons. Rather than verifying those thresholds, what was required, in their view, was that all nuclear tests be prohibited. Intermediate agreements to limit testing would have a useful purpose only if they served to curb the qualitative development of nuclear weapons and constituted steps towards the conclusion of a comprehensive test-ban treaty.

60. Members of the Group of Eastern European and other States continued to regard the earliest elaboration of a treaty on the complete and general prohibition of nuclear-weapon tests among the most urgent and significant measures for halting the nuclear arms race and preventing the proliferation of nuclear weapons. They expressed their conviction that a prohibition of nuclear-weapon tests was the key to halting the nuclear-arms race and to checking considerably the refinement of nuclear weapons, thus bringing closer the ultimate goal of a nuclear-weapon-free world.

61. The USSR, in particular, repeatedly stressed its continued commitment to an early achievement of a comprehensive test ban and its readiness to use all possibilities leading to that objective, and believed that a step-by-step approach to the achievement of a comprehensive ban was justifiable. In the First Committee of the General Assembly, at its forty-fifth session, the Soviet Union stated that it had reviewed its programme of nuclear testing, reducing the number and yield of explosions, and had not conducted any tests since October 1989. The Soviet Union was prepared to extend the 12-month pause in nuclear testing for ever, if the United States would join in that move. 53/ Subsequently, on 24 October 1990, the Soviet Union announced that it had carried out an underground nuclear test on that date, its first in a year.

62. The United States has repeatedly affirmed that a comprehensive test ban remains its long-term objective, to be seen in the context of a time when it is no longer necessary to depend on nuclear deterrence to ensure international security and stability. In its view, the following is needed before agreement on a comprehensive ban can be reached: broad, deep and verifiable arms reductions; greatly improved verification capabilities; expanded confidence-building measures and greater balance in conventional forces. Until that had been achieved, nuclear weapons would continue to play a critical role in its national security strategy and a sensible test programme ensuring the credibility and safety of its forces would be required. In that context, the United States has not identified any further limitations on nuclear testing, beyond those now contained in the TTBT, that would be in its national security interest. 54/ In a statement in the First Committee of the General Assembly, on 16 October 1990, the United States noted that

the verification protocols to the threshold test ban Treaty and peaceful nuclear explosions Treaty had been signed by the Presidents of the United States and the USSR and that the United States Senate had given its advice and consent to their ratification. In reiterating its testing policy, the United States further stated: "As we put into practice the new verification protocols, the United States will be ready to propose negotiations on possible further nuclear testing limitations that make sense from a national security standpoint, contribute to stability, and still permit the certainty of a reliable, safe, and effective deterrent. The President is firm in his commitment to the step-by-step process and to a comprehensive test ban as a long-term objective of the United States. We are convinced, however, that as long as the United States must rely upon nuclear weapons for deterrence, we must also have a sensible test programme. The United States must test nuclear weapons to ensure that we will always meet the highest safety, security and reliability standards. To do otherwise would create uncertainty about our stockpile and could render us unable to make security, safety or survivability improvements. This would erode stability, not enhance it." 55/

63. The United Kingdom maintains the view that its security will depend for the foreseeable future on deterrence based, in part, on nuclear weapons, making it necessary to conduct underground nuclear tests to ensure that its nuclear weapons remained effective and up to date. In the view of the United Kingdom, a comprehensive test ban remains a long-term goal, while an immediate move to a comprehensive test ban would be premature - even destabilizing. 56/ The complete cessation of nuclear testing should occur as part of an effective disarmament process which should pursue as a first priority deep and verifiable reductions in the existing arsenals of nuclear weapons. 57/

64. France holds that international commitments in the field of nuclear testing can be considered only in the overall context of nuclear disarmament and has stressed that the cessation of nuclear-weapon testing is not a pre-condition for progress towards nuclear disarmament but, on the contrary, could become significant at the end of a long-term process resulting in real and effective nuclear disarmament. France has emphasized that it could not agree to the obsolescence of its limited nuclear deterrent and that only the nuclear explosions necessary to maintain its credibility have been conducted. France has also stressed that, in the context of deep reductions of nuclear weapons, the problem of reliability of the remaining weapons would only become more important. 58/

65. China has repeatedly stressed that it has always stood for a comprehensive prohibition and thorough destruction of nuclear weapons, including the cessation of nuclear tests, and that it would be prepared to take corresponding measures in the process of cessation of the nuclear-arms race and nuclear disarmament, in which the two States possessing the largest nuclear arsenals should take the lead in halting the development, production and deployment of all nuclear weapons and drastically reducing their nuclear arsenals. 59/

66. The 1980 United Nations study on a comprehensive nuclear-test ban (see sect. II.E above), in its conclusions, regarded a comprehensive test ban "as the first and most urgent step towards a cessation of the nuclear-arms race, in particular, as regards its qualitative aspects". 60/ According to the study, a

comprehensive test ban would have a major arms limitation impact in that it would make it difficult, if not impossible, for the nuclear-weapon States parties to the treaty to develop new designs of nuclear weapons and would also place constraints on the modification of existing weapon designs. 61/ The 1980 United Nations study also noted:

> "97. On the occasion of the special session of the General Assembly devoted to disarmament, in 1978, the CCD, at the request of the General Assembly, submitted a special report on the state of the various questions under consideration by the Committee, including the question of a comprehensive nuclear-test ban. In the report, the CCD stated that 'the Committee's highest priority remains the conclusion of a comprehensive nuclear-test ban'."

67. The subject was also discussed in the 1980 United Nations Comprehensive Study on Nuclear Weapons. 62/ The experts stated, in paragraph 86 of the study, that a clear understanding of the influence nuclear-weapon tests might have on the future development of warheads was crucial to efforts to achieve a comprehensive test ban. They recalled, in paragraph 87, the view emphasized in particular by the United States that the purposes for which nuclear tests were conducted included: improvement of yield-to-weight ratios; reduction of warhead cost and special nuclear material and consumption; enhancement of warhead safety; increase of weapon control to prevent unauthorized use; tailoring of weapons effects to specific military needs; understanding of long-term chemical and structural stability.

68. The study then continued:

> "89. Those favouring a comprehensive test ban claim that it will impede the evolution of nuclear-weapon technology among the existing nuclear Powers, contribute to prevent the proliferation of nuclear weapons among nations which do not now possess them and generally de-emphasize nuclear weaponry.
>
> "90. Those opposing a comprehensive test ban argue that nuclear stockpiles would become less reliable, and that one would have to forgo nuclear-weapon developments leading to nuclear weapons which are safer against accident and more controllable. The view is also expressed that the nuclear-weapon Powers would need to continue to test in order to stay ahead of those nuclear Powers that have not signed the partial test-ban treaty.
>
> "91. It might be technically possible for a nuclear-weapon Power to maintain a stockpile (without improving it) by non-nuclear testing and remanufacture of components which age, corrode or otherwise become unacceptable for use in the stockpile. Still, as long as nuclear weapons exist, there would be pressures for changes in the stockpiles that may require nuclear-weapon testing.
>
> "92. From the discussion above, one may conclude that a comprehensive test ban would make more difficult the continued development of sophisticated weapons within the established nuclear Powers and thus have an inhibiting effect on the arms race."

69. According to the 1989 United Nations study on the economic and social consequences of the arms race and military expenditures: 63/

> "26. The modernization of nuclear weapons is based on technical innovations which require the testing of nuclear explosives and their delivery vehicles. Nuclear-weapon tests are also said to be needed to maintain and confirm the reliability of existing warheads. ..."

70. On the same subject, the 1990 United Nations comprehensive study on nuclear weapons 64/ stated:

> "235. ... It is probable that a workable first-generation fission weapon could be developed without testing, although it is uncertain how reliable this device would be. The Hiroshima bomb was not tested, and design and construction may well be easier today with the use of supercomputers. To develop advanced nuclear weapons, such as fusion weapons, would, however, require testing."

71. On the relationship between nuclear testing and the continued development of warheads, the study points out the following:

> "236. The testing of nuclear warheads is a critical element in the production of nuclear weapons, because each new type of nuclear weapon typically requires the development of a new warhead. It is believed that most testing is done to develop specific new warheads, with half a dozen explosions required to develop a brand new design. Further tests are conducted to check weapons as they come off the production line, and also for their reliability when they reach the stockpile. Nuclear-test explosions are also used to research new kinds of nuclear weapons. 'Weapons effects' tests are also carried out to measure the effect of radiation on military equipment. Most details of nuclear tests are kept secret."

> "239. The nuclear-weapon States have based their decisions to develop new nuclear weapons, upgrade and test new nuclear-weapon systems on the following grounds: to ensure effectiveness of the nuclear deterrent by continued modernization of the nuclear stockpiles; to allow the nuclear Powers to subject command and control equipment to nuclear effects; to permit development of smaller warheads with potentially limited collateral effects.

> "240. The nuclear-weapon States have used testing to amass a vast amount of weapons expertise and a wide range of nuclear weapons. They feel that nuclear weapons must be tested if they are to remain credible. While some nuclear explosions have been used to test trigger and safety mechanisms, many nuclear warhead components can be tested without an explosion."

> "471. Since nuclear testing is an inherent part of the process of development of nuclear weapons, many States have given highest priority to a comprehensive nuclear-test ban (CTB), i.e. a prohibition of all tests, in all environments. They point out that such a ban would introduce uncertainties in the qualitative development of nuclear weapons that would make the development of

these weapons more difficult; that it would also largely prevent the acquisition of nuclear weapons by States that do not have them; and that it would therefore contribute to the goal of nuclear non-proliferation. Nuclear-weapon States, with the exception of the Soviet Union, are not prepared to accept a nuclear-test ban, because they assess nuclear testing as essential for the credibility, reliability and survivability of their nuclear deterrent forces."

72. In its conclusions, the study states:

"523. Most countries in the world consider that an early end to nuclear testing by all States in all environments would be an essential step towards preventing the qualitative improvement and the development of new nuclear weapons and would also contribute to the goal of non-proliferation. Most nuclear-weapon States consider that reliance on nuclear weapons for their security requires their continued testing and do not agree that a comprehensive test ban is an urgent necessity."

73. The question of preventing an arms race in outer space has been a major concern both within and outside the United Nations. The issue was included as a separate item on the agenda of the thirty-sixth session of the General Assembly, in 1981. Since 1983, it has been possible to merge the ideas presented by various Member States and to adopt one resolution annually on the subject. 65/ The item of the prevention of an arms race in outer space has also been considered in the Ad Hoc Committee on the Prevention of an Arms Race in Outer Space of the Conference on Disarmanent (CD). There continues to be general recognition in the Ad Hoc Committee of the importance and urgency of preventing an arms race in outer space and readiness to contribute to that common objective. According to the CD report to the forty-fifth session of the General Assembly, the Committee continued its examination of existing proposals and gave preliminary consideration to a number of new proposals and initiatives aimed at preventing an arms race in outer space and ensuring that its exploration and use will be carried out exclusively for peaceful purposes in the common interest and for the benefit of all mankind. 66/

74. The implication of a comprehensive test ban for the development of new weapons systems for outer space has mainly been considered in connection with one component of the United States Strategic Defense Initiative (SDI) programme, the X-ray laser. According to the research report Disarmament: Problems related to Outer Space, prepared by the United Nations Institute for Disarmament Research (UNIDIR) in 1987, 67/ the X-ray laser is a laser weapon pumped by a nuclear explosion. In contrast to optical lasers, which derive their beam energy from the stimulated release of energy stored in excited atoms or molecules, the radiative energy emitted by an X-ray laser originates from excited states in the shell structure of the nuclei of atoms, such as excited states in the high-energy K and L shells of atoms. According to academic sources, the pumping of X-ray lasers requires very intense radiation like that emitted from a nuclear explosion. 68/

B. The environment, including social and economic aspects

75. Besides political and security considerations, it was above all anxiety about the effects of radioactive contamination that spurred world-wide efforts aimed at the complete cessation of nuclear-weapon tests almost four decades ago. Radioactive materials from atmospheric testing occasionally caused strong local contamination and were also distributed globally. Except for a few underwater tests, the early tests were carried out in the atmosphere. However, since the signing of the PTBT, the Soviet Union, the United Kingdom and the United States have not conducted atmospheric tests. France continued to carry out atmospheric tests on French territory in the South Pacific till 1974, when it changed to underground testing only. China ended atmospheric testing in 1980.

76. The United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR), established in 1955 on the initiative of India, throughout the years has studied the short-term and long-term effects of radiation upon man and his environment and has periodically reported to the General Assembly.

77. Referring to underground tests, the 1980 United Nations Comprehensive Study on Nuclear Weapons 69/ stated:

> "261. When a nuclear device detonates underground an almost spherical cavity is formed and at somewhat larger distance the rock is cracked. The radius of the crack zone depends on the explosion yield and the properties of the surrounding rock, but is of the order of a few hundred metres. At larger distances the only effects of a fully contained underground nuclear explosion are the outgoing seismic waves. Close to an explosion, these signals can be quite strong but they decrease rapidly with increasing distance from the explosion point. Even from large explosions, seismic signals at great distances are smaller than those generated by earthquakes occurring several times a week in various parts of the world. Thus, there is no evidence that underground nuclear explosions have initiated any earthquakes in areas at great distances from the explosion point. Neither is there any physical process suggested by which such triggering could be possible. The seismic effects of underground nuclear explosions are confined to a fairly limited area around the explosion point, and there is no evidence that such explosions could generate secondary events in other areas.
>
> "262. If an underground nuclear explosion takes place comparatively close to the surface, the explosion might break through the surface and release some of the radioactive fission products into the atmosphere. A few cases of such 'venting', of such a magnitude that it could be detected outside the borders of the country where the test was conducted, did occur during the first years of underground testing. Underground test explosions in later years seem to have been contained to a higher degree, although of course any leak would contribute slightly to the total radioactive contamination of the biosphere."

78. In a report entitled "Protection of nature from the pernicious effects of the arms race" prepared by the Secretary-General for the second special session of the General Assembly devoted to disarmament, 70/ it is stated that "the testing of

nuclear weapons has seriously contaminated the atmosphere with radioactive materials and has damaged significant areas of desert. Detonation of weapons in the 10 kiloton range causes complete or severe destruction of vegetation over some 400 to 1,300 hectares." The report recommended, inter alia, the possibility of developing a comprehensive nuclear-test ban by all States as a means of ensuring security against major destruction of the environment.

79. On the subject of physical, medical and environmental effects of testing, the 1990 United Nations comprehensive study on nuclear weapons 71/ states:

> "273. The effects of underground testing depend on the yield and depth of the blast as well as the geological character of the test site. The bulk of the radioactive debris is trapped within vitrified rock, which is formed in the explosion chamber during the test. Immediate releases of radioactive substances can occur by the venting of gas to the surface through the shattered rock above the chamber. While it is normal for rigorous safety precautions to be in force at underground test sites, instances of venting, of varying seriousness, have occurred. The health of test site workers, who work in close proximity to a range of radiation hazards, is closely monitored.
>
> "274. For testing to be safe in the longer term, rock formations at test sites must be sound enough to prevent the leakage of high-grade radioactive material into the ground water over several thousand years. Critical factors include the leachability of the radioactive waste, the flow rate of the ground water, the absorption character of surrounding rock and the isolation of the site itself. Scientific studies have reached various conclusions on the likelihood and severity of future leakages. However, there is a natural and widespread concern that test sites may not prove able to contain radioactive waste and that serious leaks could have environmental and medical consequences.
>
> "275. Underground nuclear tests also produce geological disturbances. The underground cavity formed by the explosion soon collapses, causing some surface disturbance. Seismic waves from the blast may affect the whole test site, adding to concerns about its long-term integrity and causing other damage in some cases, such as marine landslides. Small seismic waves can be detected from great distances. However, underground nuclear tests are not thought to trigger larger earthquakes."

C. All aspects of the proliferation of nuclear weapons

80. The tenth preambular paragraph of the non-proliferation Treaty reads as follows:

> "Recalling the determination expressed by the Parties to the 1963 Treaty banning nuclear weapon tests in the atmosphere, in outer space and under water in its Preamble to seek to achieve the discontinuance of all test explosions of nuclear weapons for all time and to continue negotiations to this end, ...".

Thus, there is a high degree of similarity between that paragraph and the second preambular paragraph of the partial test-ban Treaty. In addition, article I of the partial test-ban Treaty states that the parties seek to achieve the conclusion of "a treaty resulting in the permanent banning of all nuclear test explosions".

81. The relationship between a comprehensive test ban and the non-proliferation of nuclear weapons was extensively discussed at all four review conferences for the non-proliferation Treaty that have taken place so far. In the Final Declaration of the First Review Conference, 72/ held in 1975, the relevant paragraph reads as follows:

> "The Conference affirms the determination expressed in the preamble to the 1963 Partial Test Ban Treaty and reiterated in the preamble to the Non-Proliferation Treaty to achieve the discontinuance of all test explosions of nuclear weapons for all time. The Conference expresses the view that the conclusion of a treaty banning all nuclear weapon tests is one of the most important measures to halt the nuclear arms race. It expresses the hope that the nuclear-weapon States Party to the Treaty will take the lead in reaching an early solution of the technical and political difficulties on this issue. It appeals to these States to make every effort to reach agreement on the conclusion of an effective comprehensive test ban. To this end, the desire was expressed by a considerable number of delegations at the Conference that the nuclear-weapon States Party to the Treaty should as soon as possible enter into an agreement, open to all States and containing appropriate provisions to ensure its effectiveness, to halt all nuclear weapon tests of adhering States for a specified time, whereupon the terms of such an agreement would be reviewed in the light of the opportunity, at that time, to achieve a universal and permanent cessation of all nuclear weapon tests. The Conference calls upon the nuclear-weapon States signatories of the Treaty on the Limitation of Underground Nuclear Weapons Tests, meanwhile, to limit the number of their underground nuclear weapons tests to a minimum. The Conference believes that such steps would constitute an incentive of particular value to negotiations for the conclusion of a treaty banning all nuclear weapons test explosions for all time."

82. The Final Declaration of the Third Review Conference, 73/ held in 1985, contains, under "Article VI and preambular paragraphs 8-12", section B, the following paragraphs referring to a nuclear-test ban:

> "5. The Conference reaffirms the determination expressed in the preamble of the 1963 Partial Test Ban Treaty, confirmed in Article I (b) of the said Treaty and reiterated in preambular paragraph 10 of the Non-Proliferation Treaty, to achieve the discontinuance of all test explosions of nuclear weapons for all time.
>
> "6. The Conference also recalls that in the Final Document of the First Review Conference, the Parties expressed the view that the conclusion of a Treaty banning all nuclear weapon tests was one of the most important measures to halt the nuclear arms race. The Conference stresses the important contribution that such a treaty would make toward strengthening and extending

the international barriers against the proliferation of nuclear weapons; it further stresses that adherence to such a treaty by all States would contribute substantially to the full achievement of the non-proliferation objective."

"12. ... The Conference except for certain States whose views are reflected in the following subparagraph deeply regretted that a comprehensive multilateral Nuclear Test Ban Treaty banning all nuclear tests by all States in all environments for all time had not been concluded so far and, therefore, called on the nuclear weapon States Party to the Treaty to resume trilateral negotiations in 1985 and called on all the nuclear-weapon States to participate in the urgent negotiation and conclusion of such a Treaty as a matter of the highest priority in the Conference on Disarmament.

"At the same time, the Conference noted that certain States Party to the Treaty, while committed to the goal of an effectively verifiable comprehensive Nuclear Test Ban Treaty, considered deep and verifiable reductions in existing arsenals of nuclear weapons as the highest priority in the process of pursuing the objectives of Article VI.

"The Conference also noted the statement of the USSR, as one of the nuclear weapon States Party to the Treaty, recalling its repeatedly expressed readiness to proceed forthwith to negotiations, trilateral and multilateral, with the aim of concluding a comprehensive Nuclear Test Ban Treaty and the submission by it of a draft Treaty proposal to this end."

83. At the Second and Fourth NPT Review Conferences, in 1980 and 1990, respectively, a thorough exchange of views on progress towards fulfilment of the Treaty's objectives was held. 74/ Neither Review Conference was able, however, to agree on a final declaration.

84. When the non-proliferation Treaty entered into force, on 5 March 1970, the Secretary-General of the United Nations made an appeal for action to contribute to the universality of the Treaty. He also made clear that the Treaty must not be viewed as an end in itself, but as a step towards disarmament. In the course of the 20 years since the entry into force of the Treaty, concerns have arisen with regard to realizing the purposes enunciated in its preamble and substantive provisions. The main divergences of opinion have concerned the implementation of article VI of the Treaty. In general, the non-nuclear parties have stressed the need to strengthen the non-proliferation régime through conclusion of a comprehensive test-ban treaty and through nuclear disarmament. The Depositary Governments have, for their part, drawn attention to their efforts on a number of issues, including drastic reductions in the stockpiles of nuclear weapons. The strong convergence of the interest of the nuclear-weapon and non-nuclear-weapon States in checking the further spread of nuclear weapons has so far helped the parties to maintain a positive view of the fundamental aims of the Treaty, and of the possibility of fully achieving its basic objectives.

D. Peaceful uses of nuclear energy

85. Within the framework of the consideration of a comprehensive nuclear-test ban, the question of peaceful nuclear explosions has been discussed in a number of deliberating and negotiating bodies within the United Nations framework. The problem of nuclear explosions for peaceful purposes arises because it seems not to be possible to develop nuclear explosive devices which would be capable only of peaceful application, and in practice it would be extremely difficult to differentiate between a nuclear-weapon test and a peaceful nuclear explosion. Therefore, it is generally felt that a comprehensive test-ban treaty would have to contain provisions, acceptable to all, which would prevent the circumvention of the nuclear-weapon-test ban by means of explosions for peaceful purposes.

86. Referring to the issue of nuclear explosions for peaceful purposes, the research report The Verification Issue in United Nations Disarmament Negotiations, 75/ prepared by UNIDIR in 1987, states the following:

> "The question of nuclear explosions for peaceful purposes remains to be resolved. The question involved is what system of control might be established to prevent military benefit from accruing to a State conducting peaceful nuclear explosions. The Soviet Union has stated that a comprehensive test ban treaty must contain provisions allowing peaceful nuclear explosions. There would be a moratorium on such explosions until procedures for conducting them could be agreed upon. The United States and other countries have argued that they do not see how a nation could be prevented from deriving military benefit from these explosions and have asked those nations which support their inclusion to present their views on this question. If no means are found to prevent military benefits from accruing to a State conducting peaceful nuclear explosions, the objectives of a comprehensive test ban could be circumvented by nations conducting military tests under the guise of peaceful nuclear explosions."

87. In 1975 the Board of Governors of the International Atomic Energy Agency (IAEA) established an intergovernmental Ad Hoc Advisory Group on Nuclear Explosions for Peaceful Purposes. The Group elaborated a list of principles or matters to be considered in formulating international arrangements for providing nuclear explosions for peaceful purposes in accordance with the Treaty on the Non-Proliferation of Nuclear Weapons in the form of four main alternative international legal instruments for providing PNEs. 76/ The Advisory Group has not met since then. It could be reconvened at any time that new developments or requests by Member States made this appropriate. According to IAEA, no requests for PNE-related services have been received by the Agency, nor has the Agency been informed of any requests directed to those States parties to the NPT which possess nuclear explosive devices for PNE-related services. 77/

88. Article V of the non-proliferation Treaty explicitly calls on the parties to the Treaty to take appropriate measures to ensure that potential benefits from any peaceful applications of nuclear explosions are made available to non-nuclear-weapon States party to the Treaty. However, as the Third Review Conference to the non-proliferation Treaty in 1985 stated, the potential benefits

of the peaceful applications of nuclear explosions have not been demonstrated. So far, no requests for services related to the peaceful application of nuclear explosions have been made by any non-nuclear State party to the non-proliferation Treaty.

89. In a recent statement, the United States noted that during the previous five years it had not conducted any nuclear explosions for peaceful purposes. 78/ The Soviet Union declared that it remained ready to carry out its obligations under article V of the non-proliferation Treaty; it believed in that respect that IAEA was the international organ through which services connected with peaceful nuclear explosions could be made available under appropriate international observation. However, for economic and environmental reasons, interest in receiving such services had decreased during recent years. 79/ The United Kingdom stated that it had not detonated any nuclear explosive devices for peaceful purposes and saw no useful role for peaceful nuclear explosions, as any benefit could be achieved in other ways. 80/

90. The Conference on Disarmament has occasionally considered the implications of peaceful nuclear explosions and other relevant matters, primarily in the context of a comprehensive test ban. The main questions continue to be (a) whether the carrying out of a peaceful nuclear explosions programme by a non-nuclear-weapon State is compatible with the objective of preventing the further spread of nuclear weapons, and (b) whether a comprehensive test ban should ban nuclear explosions for peaceful purposes.

91. A number of proposals and ideas for comprehensive nuclear-test ban, put forward by various Member States in the past - including the report on the trilateral negotiations between the USSR, the United States and the United Kingdom held between 1977 and 1980 (see para. 49 above) - referred to the question of nuclear explosions for peaceful purposes. In the course of the trilateral negotiations, the three parties agreed that the comprehensive test-ban treaty would be accompanied by a protocol on nuclear explosions for peaceful purposes, which would be an integral part of the treaty and would take into account the provisions of article V of the Treaty on the Non-Proliferation of Nuclear Weapons. In the protocol, the parties would establish a moratorium on nuclear explosions for peaceful purposes. Without delay after entry into force of the treaty, the parties would keep under consideration the subject of arrangements for conducting nuclear explosions for peaceful purposes, which could be made effective by appropriate amendments to the protocol.

92. The basic provisions of a CTBT proposed by the Soviet Union in 1982 and in 1987 and a draft treaty proposed by Sweden in 1983 also refer to the question of peaceful nuclear explosions. They suggest that arrangements concerning peaceful nuclear explosions might take the form of a special agreement - possibly a protocol - or agreements constituting an integral part of a CTBT. The South Pacific Nuclear Free Zone Treaty (Treaty of Rarotonga), which entered into force in 1986, is the first international treaty specifically banning peaceful nuclear explosions.

IV. VERIFICATION OF A COMPREHENSIVE TEST BAN

93. Throughout the years, the verification issue has figured prominently in all deliberations and negotiations on the subject of a nuclear test ban. The 1990 United Nations comprehensive study on nuclear weapons, 81/ referring to the verification issue, states:

> "479. The verification aspects of a comprehensive test ban have received considerable attention. A variety of means, including satellite data and radiation monitoring, have allowed the international community to verify adherence to the ban on atmospheric tests. Underground testing has traditionally been monitored using seismic techniques although other techniques have been devised as a complement. Efforts are being made in the Conference on Disarmament to design a global seismic network for acquisition and exchange of data. Many believe that seismic monitoring, backed up by other methods, could detect and identify tests down to very low yields (1-2 kilotons) and that this testing threshold would impose severe constraints on nuclear-weapons development. However, there is some concern that no verification system would be able to detect sub-kiloton explosions."

94. In the concluding part of the study it is stated:

> "524. The United States and the Soviet Union have agreed to continue to co-operate in the field of monitoring nuclear-weapon tests. Multilateral and bilateral efforts to perfect verification methods for a comprehensive nuclear-test ban are important for achieving the ultimate complete cessation of such tests."

95. According to the 1987 UNIDIR research report The Verification Issue in United Nations Disarmament Negotiations, 82/ the main verification problem to be resolved was the detection and identification of underground nuclear explosions. On the subject it stated:

> "The verification methods that have been proposed to resolve this problem are: national technical means, principally seismic monitoring, but also including the possible use of satellite surveillance and monitoring of hydroacoustic waves and airborne radioactivity; the establishment of an international seismic data exchange; the establishment of a system for the international exchange of data on airborne radioactivity; the use of tamper-proof automatic seismic stations, or 'black boxes'; and on-site inspection, either voluntary, on-challenge, or mandatory."

96. The Secretary-General of the United Nations has also touched upon the question of verification of a nuclear-test ban. In 1988, in his statement at the third special session of the General Assembly devoted to disarmament, he stressed that, with international co-operation, the technological revolution, instead of being applied to the development of ever more sophisticated weapons, could be made available for peaceful objectives, such as arms limitations and disarmament agreements. In this area, he stated, the United Nations might be able to make an important contribution. At the request of the General Assembly, an expert study

has now been completed on the question of the role of the United Nations in the field of verification. 83/ The study suggests, inter alia, that the United Nations involvement in verification should be an evolutionary process and that the United Nations will need to address the multilateral aspects of verification with increasing attention.

97. In the course of their trilateral negotiations on a comprehensive nuclear-weapon test-ban treaty (see para. 49 above), the Soviet Union, the United Kingdom and the United States agreed that a variety of verification measures should be provided to enhance confidence that all parties to the treaty were in strict compliance with it. It was agreed that the parties would use national technical means of verification at their disposal, in a manner consistent with generally recognized principles of international law, to verify compliance with the treaty, and that each party would undertake not to interfere with such means of verification. The negotiating parties agreed to provisions establishing an international exchange of seismic data which would be transmitted through the global telecommunication system of the World Meteorological Organization or through other agreed communication channels. A committee of experts would be established to consider questions related to the international seismic data exchange and also to serve as a forum in which parties to the treaty might exchange technical information and co-operate in promoting the effectiveness of the international exchange. Finally, the negotiating parties agreed to other co-operative measures, such as provisions in the treaty for direct consultations and for the exchange of inquiries and responses among parties to the treaty in order to resolve questions that might arise concerning treaty compliance. If a party had questions regarding an event on the territory of any other party, it might request an on-site inspection for the purpose of ascertaining whether or not the event was a nuclear explosion.

98. The verification arrangements agreed upon in the verification protocols to the TTBT and the PNET signed by the Soviet Union and the United States in June 1990 (see para. 48 above), include hydro-dynamic yield measurement (the so-called CORRTEX method), on-site inspections and seismic monitoring on the territory of the testing party as well as national technical means.

99. As was the case in the bilateral and trilateral negotiations, the question of adequate verification procedures has remained one of the major problems in the multilateral considerations of a comprehensive test ban. Over the years, a number of proposals have been made in order to solve the issue.

100. Following a proposal by Sweden, which believed that adequate means to deter any clandestine testing under an agreement could be provided by a global seismic monitoring system, the then Conference of the Committee on Disarmament set up in 1976 an ad hoc group of scientific experts to study that possibility. The mandate of the Group was to consider international co-operative measures to detect and identify seismic events.

101. The Ad Hoc Group of Scientific Experts to Consider International Co-operative Measures to Detect and Identify Seismic Events has regularly submitted progress reports to the Conference on Disarmament. Specifically, the Group has worked on:

development of the scientific and technical aspects of a global seismic data exchange system; elaboration of instructions for experimental tests of such a system; and co-operation in the review and analysis of national investigations by States participating in the Group. Over the years, the Ad Hoc Group has systematically defined the elements of an international co-operative data exchange system and elaborated in detail its basic scientific and technical aspects.

102. In 1986, the Group reported on the results of and experience gained from the large-scale technical test conducted by it during 1984. That test, which had been termed the Group of Scientific Experts' Technical Test (GSETT), had comprised exchange and analysis of parameter (Level I) data using the Global Telecommunications System of the World Meteorological Organization (WMO) on the regular-use basis authorized by WMO in 1983.

103. In 1989, the Group submitted a description of initial concepts for a modern international seismic data exchange system based on the expeditious exchange of waveform (Level II) and parameter (Level I) data and the processing of such data at international data centres (IDCs). The Group also finalized detailed and technical material related to the future system and agreed upon preliminary technical specifications for modern prototype "CD-Stations", able to collect and expeditiously exchange high quality waveform data from seismic events at all distances. After testing and evaluation of these preliminary specifications, this CD-Station concept could form the basic standard for stations in the global network. The Group has agreed that national data centres (NDCs) will be responsible for providing agreed seismic data to IDCs for processing according to agreed procedures, and distribution of results to all participants. Current plans are to establish a minimum of four IDCs, to be located in Canberra, Stockholm, Moscow, and Washington, D.C. The envisaged global system incorporates the concept of rapid, reliable high-capacity international data communications, using modern technology.

104. Furthermore, the Ad Hoc Group had proposed in 1986 to conduct a large-scale experiment to test the proposed concepts, in order to provide an opportunity for the Group to evaluate their performance and to make recommendations for changes to these concepts as appropriate. The initial phase of this large-scale experiment, which is called the Group of Scientific Experts' Second Technical Test (GSETT-2), was completed in 1989. The second phase of GSETT-2 started on 16 January 1990. Twenty-one countries participated in the first stage of that second phase, which lasted until 6 March 1990. Twenty-five countries participated in the 19-27 June trial test, which was undertaken as part two of a gradual build-up to the envisaged full-scale operation. The main phase of GSETT-2, involving continuous full-scale operation over an extended period of time, will be conducted during the first half of 1991.

105. In 1986, the parties to the Six-Nation Initiative (Argentina, Greece, India, Mexico, Sweden and the United Republic of Tanzania) circulated in the United Nations General Assembly their Mexico Declaration 84/ in which they declared their readiness to co-operate with the USSR and the United States in monitoring a nuclear-test moratorium. The proposed verification measures included the establishment of temporary monitoring stations at existing test sites, arrangements

for utilizing existing stations in the United States and the Soviet Union for monitoring their territories outside the test sites, as well as inspections of large chemical explosions.

Notes

1/ For the final report of the Meeting, see PTBT/CONF/1.

2/ CD/852 and CD/860.

3/ PTBT/CONF/1.

4/ DC/71, annex 15.

5/ DC/112, annex 12, para. 1.

6/ Ibid., annexes 10, 3, 6 and 4, respectively.

7/ GEN/DNT/PV.1, pp. 25-27.

8/ GEN/DNT/PV.170, pp. 3-9.

9/ GEN/DNT/PV.188, pp. 10-14.

10/ GEN/DNT/PV.191, pp. 3-7.

11/ GEN/DNT/110.

12/ GEN/DNT/122.

13/ ENDC/28.

14/ ENDC/58.

15/ ENDC/59.

16/ ENDC/72.

17/ ENDC/PV.90, pp. 13-27.

18/ ENDC/94, para. 6.

19/ ENDC/112.

20/ ENDC/145.

21/ DC/227, annex 1, sect. F (document ENDC/159), para. 5.

22/ DC/228, annex 1, sect. O (document ENDC/177).

Notes (continued)

23/ ENDC/165, point 4.

24/ ENDC/PV.381, para. 74.

25/ Official Records of the General Assembly, Twenty-first Session, First Committee, 1630th meeting.

26/ ENDC/PV.385, para. 34.

27/ General Assembly resolution S-10/2, paras. 45-51.

28/ A/40/114-S/16921, annex.

29/ A/41/518-S/18277, annex I.

30/ A/43/125-S/19478, annex.

31/ CCD/PV.545.

32/ A/39/PV.97.

33/ Official Records of the General Assembly, Forty-second Session, Supplement No. 1 (A/42/1).

34/ See "South Africa's nuclear-tipped ballistic missile capability", report of the Secretary-General (A/45/571 and Corr.1). The views of South Africa on the subject are contained in document A/C.1/45/9.

35/ See, for example, resolutions 35/145 A, 36/84, 37/72, 38/62, 39/52, 40/80 A, 41/46 A, 42/26 A, 43/63 A, 44/105.

36/ See, for example, resolutions 31/66, 32/78, 33/60, 34/73, 35/145 B, 36/85, 37/73, 38/63, 39/53, 40/81, 41/47, 42/27, 43/64, 44/107.

37/ Resolutions 37/85, 38/72, 39/60, 40/88 and 41/54.

38/ A/37/243, annex (see also General Assembly resolution 37/85, annex).

39/ Resolutions 41/59 N and 42/38 C.

40/ CD/130.

41/ NPT/CONF.II/13.

42/ CCD/523.

43/ CCD/526 and Rev.1.

Notes (continued)

44/ A/37/243, annex (see also General Assembly resolution 37/85, annex).

45/ CD/381.

46/ A/39/277-S/16587, annex.

47/ A/40/114-S/16921, annex.

48/ A/41/518-S/18277, annex I.

49/ A/43/125-S/19478, annex.

50/ CD/756.

51/ A/S-15/12.

52/ A/35/257.

53/ A/C.1/45/PV.4.

54/ See NPT/CONF.IV/20.

55/ See A/C.1/45/PV.4.

56/ See NPT/CONF.IV/9, para. 27.

57/ A/C.1/45/PV.10, p. 53.

58/ NPT/CONF.IV/9, para. 24.

59/ NPT/CONF.IV/9, para. 25.

60/ A/35/257, para. 152.

61/ Ibid., para. 156.

62/ United Nations publication, Sales No. E.81.I.11.

63/ A/43/368.

64/ A/45/373.

65/ See, for example, resolutions 40/87, 41/53, 42/33, 43/70 and 44/112.

66/ Official Records of the General Assembly, Forty-fifth Session, Supplement No. 27 (A/45/27), p. 323, para. 63.

67/ United Nations publication, Sales No. GV.E.87.0.7.

Notes (continued)

68/ See B. Jasani, ed., Space Weapons - The Arms Control Dilemma (SIPRI, 1984), p. 18.

69/ United Nations publication, Sales No. E.81.I.11.

70/ A/S-12/9, para. 20.

71/ A/45/373.

72/ NPT/CONF/35/I, annex I, p. 8.

73/ NPT/CONF.III/64/I, annex I, p. 13.

74/ See NPT/CONF.II/22/II and NPT/CONF.IV/...

75/ United Nations publication, Sales No. GV.E.87.0.4, p. 93.

76/ NPT/CONF.II/8, annex H.

77/ NPT/CONF.IV/14, sect. III.

78/ NPT/CONF.IV/20.

79/ NPT/CONF.IV/19.

80/ NPT/CONF.IV/21.

81/ A/45/373.

82/ United Nations publication, Sales No. GV.E.87.0.V, p. 93.

83/ A/45/372.

84/ A/41/518-S/18277, annex I.

Amendment Conference of the States Parties to the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water

PTBT/CONF/6
12 December 1990

ORIGINAL: ENGLISH

7-18 January 1991
New York

Letter dated 30 November 1990 from the Permanent Representatives of Indonesia, Mexico, Sri Lanka, Venezuela and Yugoslavia and the Deputy Permanent Representative of Peru to the United Nations addressed to the Secretary-General of the Conference

We have the honour to submit the attached draft Protocol II on the verification of the amendment proposed to the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water. On request of our respective Governments, the document has been prepared by a group of independent experts. We request that it be distributed as soon as possible as a document of the Amendment Conference. This preliminary draft might be revised before the beginning of the Conference in the light of comments received and it is our hope that it will be the object of careful consideration at the Conference itself.

(Signed) Nana SUTRESNA
Ambassador
Permanent Representative
of Indonesia to the
United Nations

(Signed) José Antonio ARROSPIDE
Minister
Deputy Permanent Representative
of Peru to the
United Nations

(Signed) Andrés AGUILAR
Ambassador
Permanent Representative
of Venezuela to the
United Nations

(Signed) Jorge MONTAÑO
Ambassador
Permanent Representative
of Mexico to the
United Nations

(Signed) Daya PERERA
Ambassador
Permanent Representative
of Sri Lanka to the
United Nations

(Signed) Darko SILOVIĆ
Ambassador
Permanent Representative
of Yugoslavia to the
United Nations

Annex

DRAFT PROTOCOL II OF AMENDMENT TO THE TREATY BANNING NUCLEAR WEAPON TESTS IN THE ATMOSPHERE, IN OUTER SPACE AND UNDER WATER

Outline of Protocol II

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PROTOCOL II

PREAMBLE

Pursuant to and in implementation of the Treaty Banning Nuclear Weapons Tests in the Atmosphere, in Outer Space and under Water, as amended, hereinafter referred to as the Treaty, the Parties hereby agree upon the following measures to assist in the verification of compliance with the obligations assumed.

Part I: Treaty institutions

Article I. The Organization

1. The Parties hereby establish an Organization for the purpose of assisting in the verification of compliance with the Treaty.

2. The Organization shall compile information and make observations pertinent to the Treaty, and shall report the information and observations to each Party to the Treaty.

3. Each Party shall co-operate fully with the Organization.

4. The principal organs of the Organization shall be the Assembly and the Secretariat.

5. Costs of the Organization shall be borne by the Parties in the same ratio as established by the annual assessment of United Nations dues, unless the Assembly, by a majority of two thirds, establishes a different schedule of charges.

6. The Organization shall enjoy in the territory of each Party the legal capacity and the privileges and immunities appropriate for the exercise of its functions. Representatives of the Organization and Parties' representatives to the Organization shall enjoy the privileges and immunities appropriate for the exercise of their functions.

Article II. The Assembly

1. Each Party shall be a member of the Assembly.

2. The Assembly shall meet at least once annually, and shall also meet whenever requested by the Secretary-General or by at least one tenth of the Parties.

3. The Assembly shall approve or modify the budget of the Organization.

4. The Assembly shall establish the policies and practices of the Organization.

5. The Assembly shall elect the Secretary-General for a five-year term.

6. The Assembly shall create a Technical Committee to assist in its work.

(a) Each member of the Assembly shall have the right to designate a representative to the Technical Committee.

(b) The Technical Committee shall review the technical operations of the Secretariat, assess the Secretariat's reports and recommendations, evaluate the performance of the Secretariat, and make recommendations to the Assembly regarding

possible revision of the verification measures with a view to enhancing their effectiveness or reducing their cost.

(c) The Technical Committee shall meet at least four times per year.

(d) The Technical Committee shall be organized into Sub-Committees, with each Sub-Committee having principal responsibility for one branch or verification technology or means of Treaty verification.

7. The Assembly shall approve, modify or reject the recommendations of the Technical Committee and shall determine whether to alter the Organization's procedures.

8. Each Party shall have one vote in the Assembly. All decisions shall be taken by a majority of those voting, unless the Assembly, by a majority of two thirds, approves a different standard. The Assembly shall adopt its own rules of procedure.

Article III. The Secretariat

1. The Secretariat shall implement the verification measures contained in this Protocol and the additional measures that may be approved by the Assembly.

2. The Secretariat shall be headed by a Secretary-General.

3. The Secretariat shall have appropriate staff and resources to carry out the daily functions of the Organization, to compile and maintain the data gathered and received by the Organization, and to make observations pertinent to the Treaty.

4. The paramount consideration in the employment of the staff and in the determination of the conditions of service shall be the necessity of securing the highest standards of efficiency, competence, and integrity. Due regard shall be paid to the importance of recruiting the staff on as wide a geographical basis as possible.

5. In the performance of their duties, the Secretariat and the staff shall not seek or receive instructions from any government or from any other authority external to the Organization. They shall refrain from any action which might reflect upon their position as international officials responsible only to the Organization. Each Party undertakes to respect the exclusively international character of the responsibilities of the Secretariat and staff and not to seek to influence them in the discharge of their responsibilities.

6. The Secretariat shall present an annual report to the Assembly and periodic reports to the Technical Committee.

7. The Secretariat shall prepare a proposed budget for approval by the Assembly.

8. The Secretariat shall designate appropriate senior staff officials to provide expert assistance to the Technical Committee.

9. The Secretariat shall establish the following Sections responsible for implementing verification measures pertinent to the prohibition of nuclear explosions in various environments:

(a) Section A, in the atmosphere;

(b) Section B, in outer space;

(c) Section C, under water; and

(d) Section D, under ground.

The Secretariat may establish other Sections and offices, as appropriate.

10. Each Section of the Secretariat shall develop a working description of the phenomena associated with nuclear explosions in each environment, which are observable by global monitoring networks, by localized monitoring, by on-site inspections or by other means. Each Section shall compile a data set recording every actual observation of such phenomena, together with a summary of available technical and other data regarding them.

11. Each Section of the Secretariat shall compile similar working descriptions of other phenomena associated with natural and legitimate events, activities and conditions that might create ambiguity or uncertainty regarding Treaty compliance, which are observable by global monitoring networks, by localized monitoring, by on-site inspections or by other means. Each Section shall compile a data set recording every actual observation of such phenomena, together with a summary of available technical and other data regarding them.

12. The Secretariat shall compile a registry of reports submitted by the Parties regarding their planned or completed activities that might generate the phenomena described in paragraphs 10 and 11.

Part II: Operating procedures

Article IV. Monitoring techniques

1. The Secretariat shall establish permanent global monitoring networks, as specified in annex 1.

2. The Secretariat shall consider and, as appropriate, shall implement temporary, localized monitoring, as specified in annex 2.

3. The Secretariat shall consider and, as appropriate, shall implement on-site inspections, as specified in annex 3.

4. The Secretariat shall consider and, as appropriate, shall implement inspections to corroborate the information reported to it by the Parties, as specified in annex 4.

5. The Secretariat shall undertake research related to the Treaty. Parties shall co-operate with the Secretariat in the design, conduct and analysis of research projects that could contribute to the improvement of the technology of verification.

6. The Secretariat shall investigate the feasibility of establishing additional monitoring stations or equipment, including satellite-based or aircraft-based systems, and of obtaining prompt access to relevant data collected by individual States. States shall co-operate to the maximum extent possible in providing relevant data.

Article V. Reports

1. Each Section of the Secretariat shall report monthly regarding:

(a) Additions and changes to the working descriptions, data sets, and registries it compiles;

(b) Observations it makes through permanent global monitoring networks, temporary localized monitoring, on-site inspections, and other means; and

(c) Decisions it makes regarding the application of various monitoring mechanisms and the corroboration of information supplied to it by Parties.

2. Each Section of the Secretariat shall report immediately whenever, in the exercise of its functions, it detects evidence related to a possible violation of the Treaty.

3. Each Section report shall be provided to each Party and to each representative on the Technical Committee.

4. The Technical Committee shall review the reports and make recommendations to the Assembly.

Part III: Obligations of the Parties

Article VI. Co-operative measures

1. Each Party shall permit the establishment and operation on its territory of permanent global monitoring networks as specified in annex 1.

2. Each Party shall permit the establishment and operation on its territory of temporary localized monitoring as specified in annex 2.

3. Each Party shall permit on-site inspection of its territory and activities, as specified in annex 3.

4. Each Party shall provide information to the Secretariat, and shall permit the Secretariat to corroborate such information, as specified in annex 4.

5. Each Party shall assist the Secretariat in conducting monitoring activities in areas outside the jurisdiction of any Party. Each Party shall promptly provide equipment, personnel and other support requested by the Secretariat for the conduct of such operations.

6. Each Party shall co-operate fully and in a timely fashion with the Secretariat's requests for information, support or other assistance in conducting the verification procedures of this Protocol.

7. Each Party shall designate a competent national organization for the purpose of serving as liaison with the Secretariat, providing the required information, and responding to requests for assistance.

Article VII. Additional monitoring procedures

1. For the purpose of providing assurance of compliance with the provisions of the Treaty, each Party shall use national technical means of verification at its disposal in a manner consistent with generally recognized principles of international law.

2. Each Party undertakes not to interfere with the national technical means of verification of the other Parties operating in accordance with paragraph 1 of this article.

3. Each Party undertakes not to use deliberate concealment measures which impede verification by national technical means of compliance with the provisions of the Treaty.

4. Two or more Parties may agree upon additional arrangements for the purpose of enhancing confidence in compliance with the Treaty, to be effective only among themselves, provided that those arrangements do not in any way interfere with the operations of the Organization.

5. If a multilateral verification system is established within the framework of the United Nations, the Organization shall determine the appropriate relationship between the current Treaty structures and the new agency or institutions thereby created.

Part IV: Final provisions

Article VIII. Annexes

The Annexes and Appendices shall be integral parts of this Protocol.

Annex 1: Permanent global monitoring network

Article I. Monitoring stations

1. The permanent global monitoring network shall initially include stations as indicated in appendix 1. Thereafter, additional stations may be added, as the Assembly or Secretariat determines to be necessary.

2. The Secretariat shall determine what types of monitoring equipment shall be emplaced at each station. As appropriate, the Secretariat may designate sensors capable of performing seismic monitoring, radioisotope air and precipitation sampling, ionospheric disturbance active sensing, outer space monitoring, and other monitoring functions approved by the Assembly.

3. The equipment included in the stations shall be of the best available quality and reliability, as determined by the Secretariat. The Secretariat may upgrade the equipment at the stations as improved equipment becomes available and financially feasible.

4. The network shall have at least the reliable capability to detect, locate and identify a tamped explosion of 500 tons or more of TNT equivalent anywhere in the world and of 5 tons or more of TNT equivalent within the limits of national jurisdiction of any State which has conducted more than one nuclear explosion.

5. The network shall have the capability to detect the release of significant quantities of relevant radioisotopes anywhere in the world.

6. The Secretariat shall procure the equipment for the stations. Any Party may donate stations or equipment to the global network.

7. The Secretariat shall field test the operation of the global monitoring network, assessing the accuracy and sensitivity of the equipment. Each Party shall co-operate in the conduct and evaluation of these tests.

Article II. Station operations

1. Each Party shall operate and maintain all stations on its territory. The Secretariat shall operate and maintain all stations not based on the territory of a Party.

2. The Secretariat shall train the personnel who operate and maintain the stations.

3. The Secretariat shall have immediate access to the stations and equipment at all times. The Secretariat shall inspect the stations and equipment to ensure appropriate operation and maintenance.

4. If the Secretariat finds that the host State is unable to operate and maintain a station appropriately, the Secretariat shall perform the operation and maintenance functions until the host State is able to do so.

5. Each station shall transmit its acquired data to the Secretariat headquarters in real time through a high-quality satellite-based data system designated by the Secretariat. Data shall be transmitted in unencrypted form, and a secure authentication procedure shall be implemented to reveal any tampering or degradation in the quality of the data stream.

6. All data transmitted to the Secretariat shall be promptly available to all Parties.

7. Each station and its equipment shall be tamper-resistant and tamper-indicating.

8. Each station shall be equipped with back up sensors, recording equipment, power supplies and other items as directed by the Secretariat.

Article III. Site selection

1. The Secretariat shall designate a large area (approximately 200 square kilometres) within which the permanent global monitoring station shall be located.

2. The host State shall then designate five small areas (each approximately 10 square kilometres) within that large area.

3. The Secretariat shall then designate one of the five small areas for establishment of the station. The Secretariat shall then select the specific site for the station, after consultation with the host State.

4. Areas and sites shall be selected based upon their suitability for performing the missions of the station. Sites shall be seismically quiet and shall if possible provide access to bed-rock.

5. Similar procedures shall apply to the relocation of a station that the Secretariat has found to be inadequate or inappropriate, and to the addition of supplementary stations to the global network.

6. The host State shall construct the station and install the equipment at the direction and under the supervision of the Secretariat.

Annex 2: Temporary localized monitoring

Article I. Initiation of local monitoring

1. The Secretariat may decide to undertake temporary localized monitoring whenever:

(a) There have been two or more events in an area for which the data acquired by the global monitoring network did not fit some elements of the Secretariat's working description of a natural or legitimate event, activity or condition;

(b) There have been one or more events in the area for which the data acquired by the global monitoring network did fit some elements of the Secretariat's working description of a nuclear explosion;

(c) There has been an on-site inspection in the area, and additional information-gathering would help confirm the nature of the ambiguous event or events; or

(d) The Secretariat otherwise determines that confidence in compliance with the Treaty would be enhanced by operation of additional localized monitoring.

2. The purposes of the temporary localized monitoring shall be to clarify an ambiguous situation, to supplement the data provided by the global network, and to demonstrate the good faith compliance of all Parties to the Treaty.

Article II. Station equipment and operations

1. The Secretariat shall determine what types of localized monitoring shall be undertaken, what equipment shall be utilized, where the equipment shall be emplaced, what the capabilities and sensitivities of the equipment shall be, and what local stations shall be constructed to support the operations. Equipment may be similar to that operated at the global network, and additional types of equipment may be installed and operated as appropriate.

2. The Secretariat shall procure, install, operate, and maintain the equipment and the station. If the Secretariat determines that construction or modification of local buildings is necessary, the host State shall perform those services at the direction and under the supervision of the Secretariat. If the Secretariat determines that the station should be operated for a sustained period of time, the Secretariat may delegate the operation and maintenance to the host State, under terms similar to those applicable to the operation of the permanent global monitoring network stations.

3. Data from the temporary stations shall be duplicated on the site and a copy provided to the host State. Data shall be transmitted promptly and securely to the Secretariat headquarters.

4. Procedures for ensuring that the data are authentic and secure shall be similar to those adopted for the permanent global monitoring network.

5. When the Secretariat determines that localised monitoring is no longer necessary, the station may be dismantled or the host State may elect to maintain its operations or convert it to other purposes. Any equipment supplied by the Secretariat shall be returned to it.

Article III. Site selection

1. The Secretariat shall designate a large area (approximately 20 square kilometres) within which the temporary localised monitoring station shall be located.

2. The host State shall then designate five small areas (each approximately 1 square kilometre) within that large area.

3. The Secretariat shall then designate one of the five small areas for establishment of the station. The Secretariat shall then select the specific site for the station, after consultation with the host State.

4. Areas and sites shall be selected based upon their ability to perform the missions of the station. Sites shall be seismically quiet and shall if possible provide access to bed-rock.

5. Similar procedures shall apply to the relocation of a station that the Secretariat has found to be inadequate or inappropriate.

Annex 3: On-site inspection

Article I. Initiation of on-site inspection

1. Any Party may submit to the Secretariat information that it believes may be relevant to compliance with the obligations of the Treaty and that may concern the necessity for conducting an on-site inspection. Any Party may suggest that the Secretariat undertake an on-site inspection of the territory or activities of another Party.

2. The Secretariat shall consider all information submitted to it and shall promptly respond to all suggestions for on-site inspection. If the Secretariat decides not to undertake on-site inspection, it shall report its decision to the Assembly along with all other reports. If requested to do so by one fifth of the Parties to the Treaty, the Secretariat shall make a special report on the subject within twenty-four hours.

3. The Secretariat shall undertake on-site inspection, whether or not a Party has suggested it, whenever:

(a) Data from the global permanent monitoring network or the temporary localized monitoring indicate the occurrence of an event that does not conform entirely to the Secretariat's working description of a natural or legitimate event, activity or condition and that does conform at least in part to the working description of a nuclear explosion; and

(b) The data suggest that the energy released in the event is either:

(i) Over 1,000 tons of TNT equivalent yield, or

(ii) A smaller event for which the selection algorithm indicates that on-site inspection should be conducted.

4. The selection algorithm for smaller events shall rely upon probabilistic sampling such that the likelihood of on-site inspection is higher when:

(a) The event is larger;

(b) There are important respects in which the event does not conform to the working description of a natural or legitimate event, activity or condition;

(c) There are important respects in which the event does conform to the working description of a nuclear explosion;

(d) There have been other similar events in the area that have not been the subject of on-site inspection or temporary localized monitoring; and

(e) The event occurs on the territory of a State that has conducted more than one nuclear explosion.

5. If the Secretariat determines to undertake an on-site inspection, the host State may appeal the decision to the Assembly, which shall consider the matter immediately. The inspection shall proceed while the Assembly is considering the appeal. If the Assembly concludes by a two thirds vote that the on-site inspection is not warranted, then the on-site inspection shall be abandoned promptly.

6. The Secretariat may issue an order requiring the host State:

(a) To leave all, or specified, vehicles, buildings, personnel, equipment and other items in place in the inspection area; and

(b) To refrain from undertaking any, or specified, other changes in the circumstances of the inspection area, pending the arrival of the inspection personnel.

7. The Secretariat shall provide the following information to the host State twenty-four hours prior to the scheduled arrival of the inspectors at the host State's point of entry:

(a) The point of entry to be used;

(b) The estimated time of arrival and means of arrival at the point of entry;

(c) The full names of the inspectors and the transport crew, each person's gender, date of birth, place of birth, and passport number;

(d) The location to be inspected.

8. The host State shall transport the inspectors from the point of entry to the location of the inspection within twenty-four hours after the inspectors' arrival at the point of entry.

Article II. Conduct of on-site inspection

1. The Secretariat shall determine the area to be inspected, the duration and dates of the inspection, and the size and composition of the inspection team. The Secretariat shall designate the individual members of the inspection team.

2. The host State shall provide the inspectors with immediate and uninhibited access to the entirety of the inspection area, and to all vehicles, buildings, personnel, equipment and other items within it. The host shall provide the inspectors with transportation to, from, and within the inspection area; with appropriate housing and sustenance during the inspection; with the best quality maps available of the inspection region; and with additional logistical and safety support as necessary.

3. The inspectors shall supply their own tools and equipment for use in the inspection. The host State may examine the tools and equipment in the presence of the inspectors at the start of the inspection, and all tools and equipment shall be kept in secure storage facilities while not in use.

4. Inspectors shall be entitled to gather information they consider relevant, including, but not limited to:

(a) Taking photographs with ordinary visible-light cameras and other equipment (including video equipment);

(b) Collecting samples of air, soil, water, flora, and fauna;

(c) Surveying the area via helicopter, fixed-wing aircraft, and suitable terrestrial vehicles;

(d) Digging holes for the emplacement of sensing equipment. The data acquired in the inspection shall be used exclusively for purposes of Treaty inspection.

5. The inspectors shall have the diplomatic privileges and immunities customarily accorded to persons of their status performing similar functions under other international agreements.

6. The inspection team shall enjoy prompt, secure communications with the Secretariat headquarters. The inspection team may elect to bring its own communications equipment or to rely upon that provided by the host State.

7. The host State may designate personnel to accompany the inspectors during the performance of their duties, including the gathering of information under paragraph 4 of this article, and to replicate their observations and measurements, provided that these personnel do not interfere with the expeditious and effective conduct of the inspection.

8. If the host State considers that particular aspects of the inspection are inappropriately infringing upon its sovereignty or rights, it may lodge a complaint with the Assembly, which shall consider the question promptly. Unless the Assembly determines otherwise, by a two-thirds vote, the Secretariat shall be authorized to continue with the questioned inspection procedures.

9. Before leaving the inspection area, the inspection team shall complete a brief written report summarizing its activities and the data it has collected. A copy of this report shall be provided to the host State before the team's departure. The host State may append a commentary, either at that time or subsequently.

10. The Secretariat may include public or journalistic members on the inspection team. The inspections will be further open to public and journalistic observation as the host State considers appropriate, provided that the observers do not inhibit the expeditious and effective conduct of the inspection.

Annex 4: National data provided to the Secretariat

1. Within one year after the entry into force of the Protocol, each Party shall provide to the Secretariat the following information regarding every nuclear explosion undertaken by it or within its national jurisdiction:

(a) The geographic co-ordinates and height or depth of the explosion;

(b) The nature of the surrounding medium and seismic transmission materials;

(c) The type, yield, nature, and purpose of the explosion;

(d) The date and time of the explosion.

2. Within one year after the entry into force of the Protocol, and within one month after each subsequent incident, each Party shall provide to the Secretariat the following information regarding every natural and legitimate event, activity and condition undertaken by it or occurring within its territory that might create ambiguity or uncertainty regarding Treaty compliance:

(a) The date and time of the incident;

(b) The geographic co-ordinates and height or depth of the incident;

(c) The nature of the surrounding medium and seismic transmission materials;

(d) The nature and size or extent of the incident.

3. Within one year after the entry into force of the Protocol, and within one month after the discovery or creation of any subsequent items, each Party shall supply the Secretariat with the following information regarding any large underground cavities created or discovered by it or occurring within its territory:

(a) The geographic co-ordinates and depth of the cavity;

(b) The size and rough shape of the cavity;

(c) The date of creation or discovery of the cavity;

(d) The nature of the surrounding medium and seismic transmission materials;

(e) The purpose or function of the cavity;

(f) The nature of any contents of the cavity.

4. Each Party that has conducted more than one nuclear explosion shall provide to the Secretariat the following information regarding all chemical explosions greater than 3 tons of TNT equivalent occurring anywhere under its jurisdiction and control; and each other Party shall provide the following

information regarding all chemical explosions greater than 300 tons of TNT equivalent occurring anywhere under its jurisdiction and control:

(a) The geographic co-ordinates and depth of the explosion;

(b) The nature of the surrounding medium and seismic transmission materials;

(c) The nature and quantity of the explosive used;

(d) The purpose of the explosion;

(e) The explosive power of the event;

(f) The date and time of the explosion;

(g) The mode of explosion (ripple fire or otherwise).

5. The Party shall provide the information specified in paragraph 4 to the Secretariat one month before the scheduled explosion. If the planned parameters are altered, the Party shall notify the Secretariat one week before the event. If the planned parameters are altered again, the Party shall notify the Secretariat twenty-four hours before the event. If the actual event departs from the planned and reported parameters, the Party shall notify the Secretariat within twenty-four hours after the event. If there is an accidental, unauthorized or natural explosion of comparable force, the Party shall notify the Secretariat immediately and shall provide the same types of information as soon as possible and no later than one month after the event.

6. Within twelve hours after any Party launches a space vehicle, it shall provide to the Secretariat all the registry information specified in the 1975 Convention on Registration of Objects Launched into Outer Space.

7. Each Party shall notify the Secretariat immediately whenever a vertical shaft greater than 1 metre in diameter and greater than 200 metres in depth is drilled at any location within its jurisdiction and control.

8. Each Party shall notify the Secretariat immediately whenever a horizontal tunnel greater than 1 metre in diameter and having an overburden of greater than 200 metres is drilled at any location within its jurisdiction and control.

9. The Secretariat shall develop and promulgate standardized forms through which the Parties shall report the information required by this annex. The Secretariat shall advise Parties regarding conformity with reporting forms and procedures, provide training and assistance in completing the forms, and modify the forms as appropriate.

10. The Secretariat shall have the power to undertake corroboration visits, to confirm the accuracy of the information reported under this annex and to observe activities and circumstances reported.

Amendment Conference of the States Parties to the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water

PTBT/CONF/7
17 December 1990
ENGLISH
ORIGINAL: SPANISH

7-18 January 1991
New York

LETTER DATED 14 DECEMBER 1990 FROM THE PERMANENT REPRESENTATIVES OF CHILE AND COLOMBIA AND THE DEPUTY PERMANENT REPRESENTATIVES OF ECUADOR AND PERU TO THE UNITED NATIONS ADDRESSED TO THE PROVISIONAL SECRETARY-GENERAL OF THE CONFERENCE

On behalf of the members of the Permanent South Pacific Commission, we have the honour to request that the enclosed text be circulated as a document of the Amendment Conference of the 1963 Moscow Treaty, which is scheduled to take place here in New York from 7 to 18 January 1991.

(Signed) Enrique PEÑALOSA
Ambassador
Permanent Representative of
Colombia to the United Nations

(Signed) Juan SOMAVIA
Ambassador
Permanent Representative of
Chile to the United Nations

(Signed) Abelardo POSSO SERRANO
Minister
Deputy Permanent Representative of
Ecuador to the United Nations

(Signed) José Antonio ARROSPIDE
Minister
Deputy Permanent Representative of
Peru to the United Nations

Annex

The countries members of the Permanent South Pacific Commission reaffirm their full support for the objectives of the Commission, in particular, a total ban on nuclear testing in the Pacific basin and prevention of pollution of the marine environment and its resources from whatever source.

With this aim in view, the Permanent Commission decided in 1984 to establish an automatic procedure for protesting against situations relating to the above-mentioned objectives. What this has entailed in practice has been the sending of 17 forceful protest notes to the Secretary-General of the United Nations on the dates indicated below:

DATE OF EXPLOSION	DATE OF PROTEST
26 April 1986	7 May 1986
28 May 1986	11 June 1986
13 November 1986	24 November 1986
7 December 1986	12 December 1986
6 May 1987	19 June 1987
24 October 1987	30 October 1987
6 November 1987	13 November 1987
12 May 1988	20 May 1988
26 May 1988	8 June 1988
24 November and 1 December 1988	12 December 1988
12 May 1989	30 May 1989
11 June 1989	22 June 1989
3 June 1990	3 June 1990
7 June 1990	3 July 1990
27 June 1990	6 July 1990
15 November 1990	16 November 1990
22 November 1990	26 November 1990

Amendment Conference of the States Parties to the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water

PTBT/CONF/8
20 December 1990

ORIGINAL: ENGLISH

7-18 January 1991
New York

LETTER DATED 17 DECEMBER 1990 FROM THE PERMANENT REPRESENTATIVES OF MEXICO, VENEZUELA AND YUGOSLAVIA AND THE CHARGES D'AFFAIRES A.I., DEPUTY PERMANENT REPRESENTATIVES OF INDONESIA, PERU AND SRI LANKA TO THE UNITED NATIONS ADDRESSED TO THE PROVISIONAL SECRETARY-GENERAL OF THE CONFERENCE

We have the honour to submit the attached proposed amendment to the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water. We request that it be distributed as soon as possible as a document of the Amendment Conference.

(Signed) Amb. Jorge MONTAÑO
Permanent Representative of
Mexico to the United Nations

(Signed) Amb. Andrés AGUILAR
Permanent Representative of
Venezuela to the United Nations

(Signed) Amb. Darko SILOVIC
Permanent Representative of
Yugoslavia to the United Nations

(Signed) Amb. Nugroho WISNUMURTI
Chargé d'affaires a.i.
Deputy Permanent Representative of
Indonesia to the United Nations

(Signed) Minister J. Antonio ARROSPIDE
Chargé d'affaires a.i.
Deputy Permanent Representative of
Peru to the United Nations

(Signed) Amb. Edmond JAYASINGHE
Chargé d'affaires a.i.
Deputy Permanent Representative of
Sri Lanka to the United Nations

Annex

PROPOSED AMENDMENT

The Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water shall be amended by the addition of the following article and protocols:

Article VI

The protocols annexed to the present Treaty constitute an integral part of the Treaty.

Protocol I

States Parties of the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water, in order to achieve the permanent banning of all nuclear explosions, including all such explosions underground, have agreed that, in addition to their undertakings in article I of the Treaty:

1. Each of the Parties of the present Protocol undertakes to prohibit, to prevent and not to carry out any nuclear-weapon-test explosion or any other nuclear explosion at any place under its jurisdiction and control:

(a) Underground; or

(b) In any other environment not described in article I, paragraph 1, subparagraph (a) of the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water.

2. Each of the Parties to the present Protocol undertakes furthermore to refrain from causing, encouraging or in any way participating in the carrying out of any nuclear-weapon-test explosion, or any other nuclear explosion, anywhere which would take place in any of the environments described in paragraph I of the present Protocol.